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A Study of the Mechanics of Curve Resistance.

By J. G. Sullivan, Consulting Engineer, C.P.R., Winnipeg, formerly Chief Engineer, Western Lines, C.P.R.

This is a subject that the writer has been interested in for a great many years, and as chairman of committee 16, Economics of Railway Location, American Railway Engineering Association, he has had occasion to study several theories on this subject, even to the theory that curve resistance was caused by the friction between the inner wheels and the inside rail of the curve, on account of the obliquity of traction. The majority of the theorists, however, give centrifugal force the center of the stage as one of the main factors in this problem.

The Economic Theory of Railway Location, by A. M. Wellington (6th edition), states in paragraph 296, pages 283 and 284: "The coning now put in wheels is chiefly useful as a prospective provision for wear; and experiment shows that whether the wheels be coned or not, the tendency of **any rectangular wheel-base is to roll very nearly in a straight line.**" This statement appears logical, but unfortunately it is not entirely true, as the writer will try to prove further on. What Mr. Wellington said years ago is still true (paragraph 292, page 281): "Curve resistance has never yet been exhaustively investigated, and our knowledge is in several respects deficient." The late Mr. Wellington seemed to have the most accurate knowledge of the actual conditions of any authority that the writer has ever read; still, we cannot agree with some of his conclusions. For instance, paragraph 314, page 294, in speaking of the conditions that exist, as shown in his figure 31, same page, states: "The consequences of this condition of things are these: first, the disproportion in the diameter of the wheels; **hence the necessary longitudinal slipping, and hence the curve resistance is materially increased.** If the increase of radius of wheel be 3/16 in., the **extra distance slipped through** per station of 100 ft. by one wheel will be 1.16 ft." The writer believes, which he hopes to prove later, that the emphasized statements are exactly opposite to the facts.

Referring to the theory of centrifugal force in this problem, the writer believes that with track having anything like the correct elevation of the outer rail, this is a very minor factor, that as far as the action of centrifugal force on the car body is concerned the result is simply the placing of more or less weight on the outer rail. Centrifugal force, acting on the truck, may effect the problem to a slight degree.

The theory of obliquity of traction, of course, is absurd, for we have on all railways positive evidence that the flanges of railway wheels cut away the head of the outside rail, while the evidence is plain that there is no flange wear against the head of the inner rail. The writer has no doubt that this obliquity of traction has a slight effect on the problem, but that this effect is very small is proved by the fact that a locomotive will practically push as many cars as it will pull. In the first place, the obliquity of traction is forcing the equipment against the outside rail, in addition to the other force that makes the flanges run against the outside rail, while in the latter case, the obliquity of traction is pulling the cars away from the outer rail; therefore, if this force was of any great moment, doubling the effect, as in the cases mentioned, would be more apparent than it proves to be in actual practice.

J. G. Sullivan, C.E.

The writer is well aware of the fact that it is easier to tear down than to build up, and the reader will rightfully say: "What is the good of all this criticism unless we can get some constructive material in its place?" To this the writer will have to admit that he cannot offer any scientific formulae that will satisfactorily explain actual curve resistance as we find it in practice. On the other hand, the writer has never seen in print a statement of what he considers the real reason why all outer wheels of railway equipment exert a pressure against the outer rail on a curve. Wellington states it is the rigid rectangular shape of the wheelbase. Those who pin their faith on the centrifugal force theory would make you believe that the wheels press against either the inside or outside rail, depending on the elevation of the outer rail in reference to the velocity. This we know from experience and practice is not true.

The reason all wheels of modern equipment, regardless of degree of curve, speed of train or elevation of track (within reasonable limits) exert a pressure against the outer rail on a curve is the fact that **a revolving cylinder tends to rotate in a straight line perpendicular to the axis of rotation;** or to reverse this proposition, **to make a revolving cylinder move in a direction not parallel with a line perpendicular to the axis of rotation requires a greater force than the force necessary to rotate the cylinder in a straight line perpendicular to its axis of rotation.** If our wheels were manufactured with flat treads and vertical flanges, on account of their being fastened rigidly to the axle, we would have in practice our equipment carried on revolving cylinders, with a portion of the cylinder cut away, and if this were the case, the writer believes it would be possible to devise formulae that would correctly represent actual amount of curve resistance. The writer's ideas can be made clearer by reference to plate 1, figs. 1 and 2, which represents a 4-wheel rectangular truck, with wheels rigid on the axle, rigid wheel-base and flat tread. The smallest force necessary to move this truck is the one required to move it on a straight line, perpendicular to the axis of rotation of the wheels. The force necessary to move such a truck parallel to the axis of the wheels, would be the weight of the truck multiplied by the coefficient of friction between the truck wheels and the surface on which it was skidded. If we represent these two forces by y and x respectively, and assume that we have a power at B moving in a straight line CB, such as a locomotive on a truck, and that this locomotive was attached by a flexible rope or cable to the center pin of the truck at C′, the connection being made by swivel, and other details so perfect that the truck would maintain the same relative position while it was being moved along line C′B′, the trucks would take the position so that the tangent of angle (a) made by the cable C′B and a line parallel with the axis of the trucks passing through C′ would be constant and equal to $\frac{y}{x}$ and the strain in the cable would be equal to $\sqrt{y^2 + x^2}$, and resolving this force C″B″ into two forces, one parallel to the line C′B′ and the other perpendicular to this line, we get the actual pull in direction C′B′ equal to C″y″, and the pull on the locomotive at right angles to the track is equal to C″x″; if we give a definite value to angle ϕ it would be easy to obtain actual values of x and y. Instead of allowing the truck to take the position indicated in fig. 2, if there were small cleats (R.R. and R′R′) nailed on the flat surface on which it is assumed the truck is moving, as indicated in fig. 1, neglecting the amount of friction between the wheel and the cleat, the pull on the locomotive would be C″y″ and the pressure against the cleats would be C″x″. Now, instead of having a straight line C B, if we have a curve line passing through C, we could replace the two cleats

by a curved rail and have almost identical conditions. If we then had a flat tread wheel and vertical flange, as shown in fig. 4, with correct elevation, half the axle load would be on the outer rail and the horizontal pressure against the outer rail would be the total load on the axle, multiplied by the coefficient of friction necessary to skid the wheels. This force, acting against the flange of the rail, something in the position of the line AB, shown in fig. 5, might be susceptible of a mathematical solution, and we could no doubt get formulae which would correctly represent curve resistance as we know it to exist. Now, everything that has been said in regard to the truck in fig. 1 and fig. 2 would be actually true if applied to a single set of wheels.

It is generally conceded that curve resistance amounts to approximately 0.8 lb. per ton of load per degree of curvature. A great many believe that the major portion of this resistance consists in the skidding of the wheels in a longitudinal direction, on account of the difference in length of the inner and outer rails. If this skidding actually took place, the difference in length between the inner and outer rails, on a one degree curve for a distance of 100 ft. being approximately 1 in., one half the load on the wheels would have to be skidded 1 in., or if the skidding backward and forward were equal, the entire load would have to be skidded ½ in.; and even assuming a large coefficient of friction for a moving body, say, 22%, a little calculation will prove that the work done in this skidding would only account for ¼ of the 0.8 lb. mentioned above.

In order to check the writer's ideas that the greater portion of curve resistance was caused by the pressure of the wheels against the outer rail, caused by the tendency of a cylinder to rotate in a line perpendicular to its axis, as mentioned before, the writer had a long 8° 10′ curve, leading off the yards in Winnipeg, carefully measured up. He then calculated what diameter the inner and outer wheels should be, so that in passing around this curve, if the theory of coning proved correct, there would be no flange pressure on either rail; in other words, the diameter of the wheels was made directly proportional to the length of the two rails on an 8° 10′ curve. These wheels were turned with a standard flange, but with a flat tread; they were put under C.P.R. steel flat car 311,074, 36 ft. 10 in. long, 5 x 9 in. journals, a simplex truck frame, center to center of axles 5 ft. 4 in., center to center of trucks 26 ft. 7 in., Susemihl side bearings. The tare of this car was 31,200 lb., live load 99,000 lb. of steel rails. The first experiments made with this car were with the idea of testing the tractive force necessary to move the same.

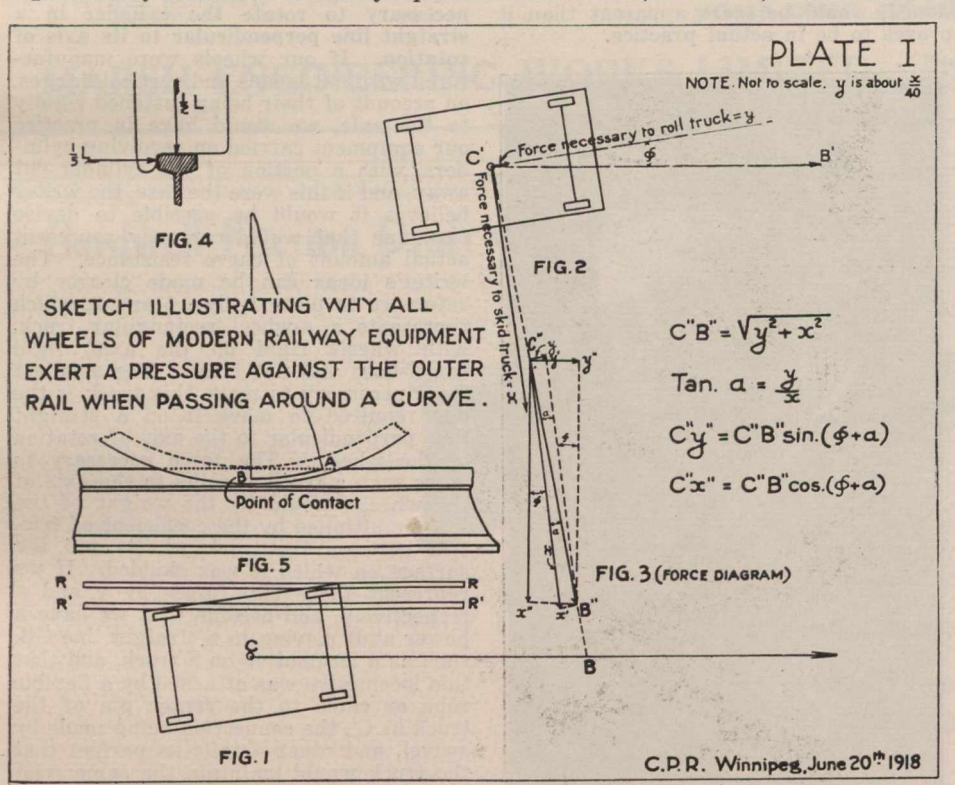
The writer asked the C.P.R. Mechanical Department officials to rig up a system of levers with a spring balance, that would be capable of measuring the tension necessary to pull the car on a level, straight track. The Mechanical Department officials, however, were of the opinion that we could get better results by using the dynamometer car with some alterations. This car has a piston, free to move in a 16 in. diameter cylinder filled with oil; the piston is connected with a draw bar by a shaft 4 in. in diameter, and the shaft is so packed that no oil will leak with a draw bar pull up to 60,000 lb. The oil from both ends of this cylinder is piped to a small recording machine in the cupola of the car. This recording machine has pistons with ½ in. end area. This portion of the machine was changed to a piston, with 2½ sq. in. end area, in order to enlarge the scale to read the small pressures that would be produced in hauling a single car.

Six or seven tests were made in hauling this loaded car over this 8° 10′ curve, which was over 1,000 ft. long, then over a distance of 2,000 ft. of straight level track, thence over a short 5° curve in the reverse direction. It was apparent from the start that on account of the packing our machine was not delicate enough to accurately measure small pressures. The writer, therefore, abandoned the idea of attempting to get a definite figure in pounds per ton with this machine, but the results prove conclusively what the writer expected, viz., that the resistance on the 8° 10′ curve was only 50% to 60% of the resistance on straight track, and when the car was pulling over the 5° reverse curve, which was really too short to get a constant pressure, being less than 150 ft. long, the indicator went up 10 to 20% over what it had been on straight track.

A very instructive lesson was obtained through a mistake that had been made. In going around the long 8° 10′ curve at all speeds, varying from 5 to 20 miles an hour, it was noticed that the trucks would first run against one rail and then against the other. It was further noticed that the conditions were the same at every trial; that is, the location where the trucks would press against the outer rail were the same. The writer sent for the resident engineer, who was instructed to measure the curve, and he reported:—"I thought you wished to know what degree of curve would best fit this location; the curve is not true, it must be thrown 5 or 6 in. in or out at several points." This, of course, was the explanation why the trucks did not run true. We simply had a series of compound curves, some sharper and some flatter than 8° 10′; the elevation at this time was about 3 in.

The next test consisted of pulling C.P.R. flat car 310,173, similar in all details to 311,074, except that the former had standard trucks, which were in very good shape. The dynamometer car results indicated, as we expected, that the resistance on straight track was only 40% to 50% of the resistance on the 8° 10′ curve. The tests were then stopped, the curve was properly lined and surfaced and the elevation reduced to 2 in. At a later date exactly the same tests that were mentioned above were repeated. The packing was somewhat loosened up and more accurate results obtained, but still not accurate enough to be given as a measure of either curve or track resistance. While the relative resistance of straight, versus curved track, was quite constant, the indicated resistance of different tests on the same track varied too much to justify even taking the mean of the number of tests we made as a measure of track resistance. The results, however, prove conclusively that the resistance offered on an 8° 10′ curve to the car with the special wheels, was only 50% to 60% of the resistance on straight track, and, as you would expect, with another similar car 310,026 with a total weight of 129,000 lb., with nearly new standard wheels, the resistance on straight track was only 40% to 50% of the resistance on the curve; but the most important feature of this test was the fact that the trucks under 311,074, while going around the 8° 10′ curve, never pressed against the head of either the inner or outer rails, but ran exactly as true as the ordinary truck runs on a straight track, as this was true regardless of the speed, from 5 to 25 miles an hour, thus proving, at least to the writer's mind, that the rectangular shape of wheel-base, especially so for the short wheel-base of a freight truck, has very little, or nothing, to do with causing the pressure of the wheels against the outer rail.

The next test that was made was one to determine, if possible, which wheels of a railway car do the skidding and the amount thereof. The writer has always been of the opinion that on account of the extra horizontal pressure of the leading wheel of a truck against the outside rail, that unless the vertical pressure on the inner rail was largely in excess of the vertical pressure on the outer rail, there would be very little or no skidding of the



outer front wheel of the truck. The writer is convinced that this is true, also that there is no backward skidding of the inner front wheel, which was more than at first expected.

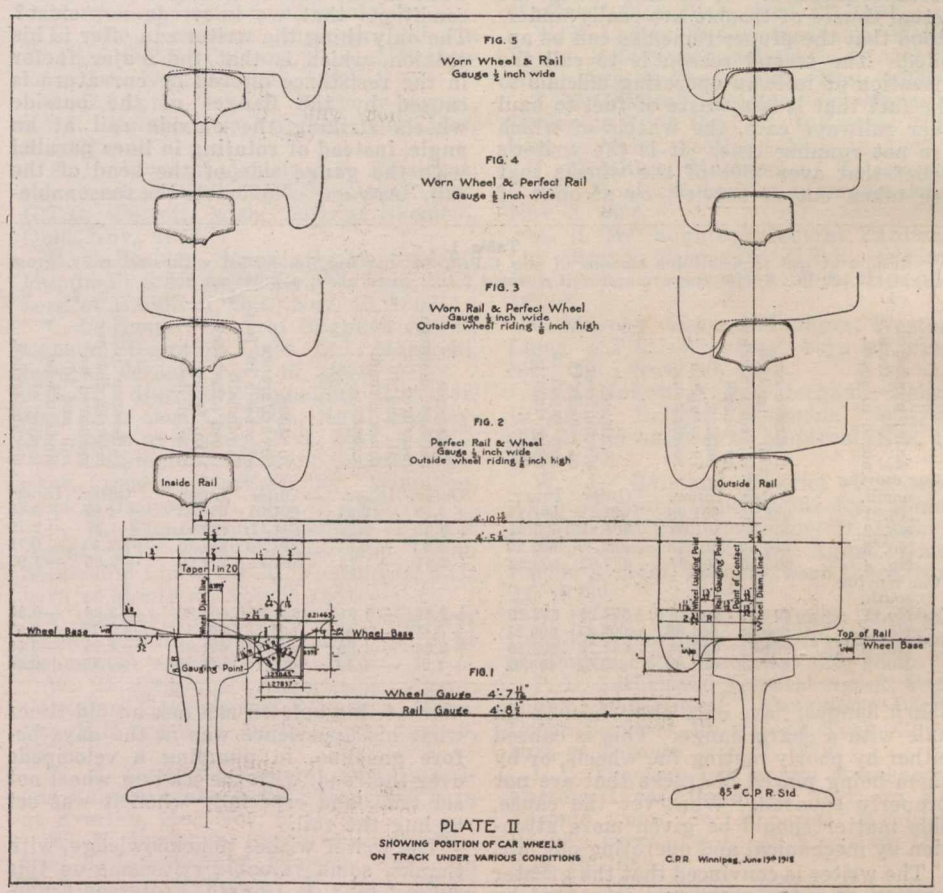
In plate II, there are five figures indicating various conditions that we meet with in general conditions. Fig. 1, shows standard wheels on C.P.R. standard 85 lb. rail straight track. The circumference that is measured in mating wheels is indicated as on "wheel diameter line," 1 in. from the base of flange and about 1 in. from the end of the 1 in 20 taper; that is, the radius of the wheel at the end of the 1 in 20 taper is about 0.05 of an inch less than at the point of measurement, making the small diameter about 0.10 of an inch less than at the point of measurement; that is, the circumference of the wheel at this point is nearly 1/3 of an inch less than at the point of measurement. The other figures are self explanatory, and indicate conditions that do exist, as any investigator can prove for himself by taking small gauge copper or soft iron wire and placing it transversely across the rail under a moving wheel on a curve. The condition shown in fig. 5 will not, of course, be constant, for the reason that the outside wheel in that case is rolling on such a very large diameter that it would soon slip away from the rail entirely if it could be supported on this large diameter; but what takes place in this case, and which can be verified by watching the leading inner wheel of a truck travelling on a worn rail (as is indicated) is a nosing motion; that is the wheel is constantly moving with a jerky motion. This feature can be very well observed by riding on the pilot of a locomotive with a sharp flange pony truck, whenever the same is going over a track where the outer rail on a curve is badly worn.

The writer has purposely called the attention of the reader to plate II and the various figures thereon, to prepare his mind for an explanation of the apparently contradictory evidence obtained in some tests made with a view of attempting to measure the amount of skidding of the wheels. C.P.R. flat car 310,016, gross weight 129,100 lb., was run at a speed of about four miles an hour a distance of about 600 ft. over the above mentioned 8° 10′ curve; the car was started from rest, each wheel marked at point of contact with rail. It was then moved north until the leading wheel had made 70 revolutions, the revolutions on all the other wheels were counted and measurements taken to show how far they would have to go to complete the 70 revolutions. The car was then run in the reverse direction. Table I gives the results of these measurements; in column 2, actual distance traversed by each wheel in making 70 revolutions is recorded; in column 3, 70 times the circumference taped in the field close to the flange. It should be noted here, however, that only the wheels on the one side of the car were taped. It was taken for granted that they would be properly mated, as they showed no flange wear that would indicate they were not. Column 4 gives the difference, or apparent skidding distance of each wheel, if the wheels had been running on the diameter as measured. After the test was made, the car was sent to the shop, the wheels taken out and officially taped. In column 5, is shown 70 times the circumference of this official taping, and in column 6 the difference between 70 times the circumference and the actual difference travelled on the rail. We started out with the idea that there would be very little or no skidding of the outside leading wheels of any truck. If one will note, however, the outer wheel's axle, nos. 1 and 3, column 4 and 6, the car going north, and also the outside wheel on axles 2 and 4 in column 4 and 6, when the car was going south, one would be apt to say that these were the wheels that did the skidding. As a matter of fact, however, from experiments made with a very soft fine wire, the writer is convinced that the outer leading wheels on a truck take the position indicated in figs. 2, 3, 4 and 5, plate II, and that there is absolutely **no backward skidding of the inner leading wheels of any railway truck in rounding a curve. Any skidding that may take place in the wheels of the leading axle is equal and in a forward direction,** taking the very small amount of indicated backward slip of the inner wheel axles 1 and 3 going north, and 2 and 4 going south, column 4, where we know the taping was taken on a larger diameter than the one the wheels were rotating on, and taking the figures in column 6 for the inner wheels of the leading axles of the trucks, which indicate a positive forward slip of the inner wheel, when we know that the diameter on which the wheels were rotating could not have been larger than the diameter on which measurements were made, would indicate that the outer wheel was pressed so hard against the outer rail that the resistance against free rotation was so great that the result is that both wheels were actually skidded a short distance forward. It is well known that a speedometer attached to the rear wheel of an automobile will register a greater amount of miles than one attached to the front wheel of the same diameter. If we reversed this situation, and there were obstructions placed in the way of a wheel, equal to the force exerted in driving the car, we would expect this wheel to show a loss in distance equal to the gain in distance shown by speedometer on the rear wheel. It appears to the writer that this forward skidding of both wheels of leading axle is quite natural.

It should be noted here that 5 or 6 rails were taken from the inside of the car, and placed on the outside, in an attempt to balance the vertical pressure on the two rails of the curve, on account of 2 in. being too much elevation for a speed of 4 miles an hour. However, there were not enough rails moved to entirely overcome the effect of the 2 in. elevation.

If the reader will again look at figs. 2, 3, 4 and 5, he will see how easy it is to get a wheel to ride ⅛ of an inch or more high; that is, increase the diameter on which the wheel rotates by ¼ of an inch and that is all it requires to account for the extra 4,862 ft.

Now, making a study of all the outer rear wheels of the trucks, it is very plain to the writer, as observation and experiments proved, that these wheels press against the outer rail and ride on a larger diameter than the official taping indicates, but not sufficient to overcome skidding entirely; that is, there is some skidding of the inner wheel of the rear axle of a truck, although the amount is rather small. This conclusion is directly opposite to that stated in paragraph 302, page 285, The Economic Theory of Railway Location, by Wellington. On a test with C.P.R. flat car 311,074, with the special wheels, on about 600 ft. of straight track, measurements were made for only the leading truck, and it was found that there was about 3 in. slip on the larger wheel of the leading axle and about 10 in. on the larger wheel of the rear axle. These amounts were reversed when the car was run in the reverse direction, and as the difference in the diameter of wheels, the **treads being turned flat,** amounts to about 4.2 ft., in going a distance of 603 ft., the writer was convinced that the small amounts of slip mentioned, 3 in. and 10 in. respectively, were accounted for by the fact that the wheels of smaller diameter,



in their attempt to mount the rail, rode on a larger diameter, and that there was very little, if any, slipping of the smaller wheels.

Similar tests as to that taken with C.P.R. car 310,016 had been previously made with C.P.R. flat car 310,073. They confirmed exactly the results obtained with car 310,016, but the car got out of the yard before the wheels could be officially taped, and the results made of that car are not reported. Another test on a side track, laid parallel and on the outside of the 8° 10′ curve, track laid with 56 lb. steel, C.P.R. car 310,016 loaded as in the experiment recorded, gave practically identical results with those recorded.

The writer's object, in giving this matter to the public, is to revive interest in this subject, bring out discussion, and if possible get more information on this important question. It is only when the actual causes of trouble are really understood that the proper remedies can be applied. The second reason is to call the attention of railway operating officials to the fact that it is a waste of fuel to haul over railways cars, the wheels of which are not running true. It is the writer's belief that over 75% of the wheels that are taken out of service, on account of general any skidding that does take place is on the inner wheel of the rear axle.

The reader will naturally ask: "If there is very little skidding of wheels, wherein lies the considerable resistance offered by curves that we know from experience actually exists?" **That is the problem the writer started out to try and solve,** but as stated at the beginning, he cannot give any reasonable formulae. The writer had formulae for the case of flat wheels and vertical flanges, that worked out beautifully close to the accepted amount of resistance offered by curvature in these formulae; however, coefficients of friction were taken rather large for bodies actually moving on each other, and the horizontal pressure against the outside rail was assumed to be ⅝ in. below the top of the flat top and vertical side of rail, as shown at B, figs. 4 and 5, plate I—but what is the use of giving formulae for conditions that we know do not exist? The only thing the writer can offer is his opinion, which is that the major factor in the resistance offered by curvature is caused by the **flanges of the outside wheels striking the outside rail at an angle, instead of rotating in lines parallel with the gauge side of the head of the rail.** Any one who doubts the reasonableness of this opinion can ask an old timer what his experience was in the days before gasoline, in pumping a velocipede over the road, with the leading wheel not set true, and especially when it was set to hug the rail.

Table 1.

Results of test to determine amount of slip C.P.R. flat car 310,016, loaded with steel rails, gross weight 129,100 lb.; 8° 10′ curve; outer rail elevated 2 in.; speed about 4 miles an hour.

1. Axles numbered 1, 2, 3, 4 from north to south.	2. Distance on rail measured in feet travelled by wheels making 70 complete revolutions.		3. 70 times circumference of wheels in feet taped in field close to flange.		4. Difference between distance measured on rail and 70 times circumference.		5. 70 times circumference of wheels in feet as officially taped after test 1 in. from base of flange.		6. Difference between distance measured on rail and 70 times official taping of circumference.	
Car moving north.	Outer.	Inner.	Outer.	Inner.	Outer.	Inner.	Outer.	Inner.	Outer.	Inner.
No. 1	605.88	601.68	602.29	602.29	+ 3.58	— 0.61	601.01	600.83	+ 4.87	+ 0.85
No. 2	605.58	601.39	605.21	605.21	+ 0.37	— 3.82	604.11	604.11	+ 1.47	— 2.72
No. 3	605.92	601.73	602.29	602.29	+ 3.63	— 0.56	601.38	601.01	+ 4.54	+ 0.72
No. 4	605.46	601.27	603.02	603.02	+ 2.44	— 1.75	602.11	602.29	+ 3.35	— 1.02
Car moving south.										
No. 1	604.67	600.48	602.29	602.29	+ 2.38	— 1.81	601.01	600.83	+ 3.66	—0.35
No. 2	608.88	604.68	605.21	605.21	+ 3.67	— 0.53	604.11	604.11	+ 4.77	+ 0.57
No. 3	604.63	600.43	602.29	602.29	+ 2.34	— 1.86	601.38	601.01	+ 3.25	— 0.58
No. 4	607.08	602.89	603.02	603.02	+ 4.06	— 0.13	602.11	602.29	+ 4.97	+ 0.60

sharp flanges, have only one wheel on an axle with a sharp flange. This is caused either by poorly mating the wheels, or by them being placed in trucks that are not properly squared. Whatever the cause, this matter should be given more attention by mechanical and operating officials.

The writer is convinced that the greater portion of curve resistance is caused by pressure of the flange against a single rail, therefore the mating of wheels or setting up of trucks not properly true, that causes the flange on one wheel of an axle to wear sharp, is not only shortening the life of the wheel, but is costing the company considerably more money to acquire this undesirable result.

The following is a summary of the writer's conclusions:—

1. All outer wheels of railway equipment exert a pressure against the outer rail when rounding a curve.

2. The cause of this pressure is the tendency of a cylindrical body to rotate in a straight line at right angles to the axle of rotation.

3. That there is never any skidding of either wheels of the leading axle of a truck, unless it is a forward skidding of both wheels, caused by the resistance to rotation being great enough to cause a slight retardation to rotation, which results in an apparent forward skidding.

4. That there is no skidding of the outer wheel of a rear axle, and that in

The writer wishes to acknowledge, with thanks, some valuable criticisms on this subject by I. P. Church, Professor Emeritus of Cornell University, Ithaca, N.Y., and would be very glad if Professor Church could be induced to write a criticism of this paper to be given to the public.

Electric Welding in the War.

Three hundred men from the Ordnance Department, U.S. Army, will be trained as electric welders in schools established by the electric welding section of the Industrial Relations Group. They will be used in the reclamation of millions of dollars worth of war materials gathered from the French battlefields. Ten men of the Expeditionary Forces already are in training at the Cleveland school, and the remainder will be sent to the schools in relays. It is estimated that millions of dollars will be saved to the War Department through this work.

Ship welders are being trained without charge in the electric welding section's schools at Schenectady, New York City, Cleveland and Philadelphia.

Railway Maintenance of Way Employes Wages.

Supplement 8 to the Director General of United States Railroads' general order 27, fixing rates of pay and rules for overtime and working conditions for railway maintenance of way employes, which became effective in the U.S. Sept. 1, is being considered by a committee representing Canadian railways collectively and a committee representing the Brotherhood of Maintenance of Way Employes, in order that an amicable understanding may be reached as to uniform application of the supplement's provisions on Canadian railways.

The members of the committee representing the railways is composed of M. S. Blaiklock, Engineer, Maintenance of Way, G.T.R.; A. E. Crilly, Assistant to General Manager, Eastern Lines, Canadian Government Railways, and G. Hodge, Assistant to Vice President, Eastern Lines, C.P.R.

The members of the committee representing the Brotherhood of Maintenance of Way Employes is composed of: A. McAndrew, acting General Chairman, C.P.R.; W. Robson, Secretary, Joint Protective Board, C.G.R.; W. Jewkes, Secretary, C.P.R. Joint Protective Board; P. Wood, General Chairman, Canadian Northern Ry.; W. Thompson, Assistant General Chairman, Canadian Northern Ry.; G. H. Cummings, General Chairman, G.T.R.; M. H. McCurdy, General Chairman, Dominion Atlantic Ry.; W. Aspinall, General Chairman, G.T.P.R.; G. W. Murray, General Chairman, Canadian Government Rys.; L. E. Moore, General Chairman, T. & N.O.R.; J. Sheppard, General Chairman, Q.M. & S.R.; W. Dorey, General Chairman, I.B. of M.W.E.

The Farmers Grain & Shipping Rd. runs from Devils Lake, N.D., where connection is made with the Great Northern and Minneapolis, St. Paul and Sault Ste. Marie Rys., to Starkweather, Crocus and Hansboro, 66 miles, and is operated under the U.S. Railroad Administration. The following appointments have been made: J. M. Gruber, General Manager; M. L. Countryman, General Solicitor; A. H. Hegeland, Chief Engineer; F. A. Bushnell, Purchasing Agent; F. A. Barnes, Federal Auditor; L. E. Katzenbach, Federal Treasurer, all of whom hold similar positions with the Great Northern Ry., under the U.S. Railroad Administration, with offices at St. Paul, Minn.

The Toronto Terminals Ry.'s application for permission to lay steam pipes from the Toronto Electric Light Co.'s plant at the foot of Scott St., along the Esplanade to the new Union Station, for the supply of heat for the premises, under a three year contract, came before the city's board of control Oct. 25, when the board decided to oppose the application, stating that the company should give preference to the city system. It was pointed out that the city hydro electric system could not supply steam for heating, and could not guarantee continuous lighting service, and the T.E.L. Co. would not supply the steam without the light.

D. O. Wood, Superintendent, Inland Transportation, British Ministry of Shipping (Canada), Montreal, in remitting his subscription to Canadian Railway and Marine World, which he has taken for many years, writes: "I like your paper very much and think it is the best of its kind."

Honoring Canadian Pacific Railway's Locomotive Men.

In order to give recognition to the part played by the locomotive men in building up and maintaining the efficiency of the train service, the C.P.R. some time ago inaugurated the plan of naming certain locomotives after men who have distinguished themselves by length and efficiency of service, or by some outstanding act of service deserve special notice. Several locomotives on both eastern and western lines have already been decor-

ated with a specially designed crest bearing the name of the driver honored. The design consists of the C.P.R. crest, viz.: a shield bearing a maple leaf and surmounted by a beaver, the whole enclosed in a circle, with the words, "Canadian Pacific" above, and the locomotive man's name in the lower sector. The locomotive carries this design on each side just below the cab window, as shown in the

illustration herewith, which is taken from locomotive 2038, known as the President's locomotive.

Following is a list of locomotives already named, with their territory, and the name of the man placed thereon. In the few cases where the locomotive number is not given, selection of the locomotive to be named had not been made at the time of writing.

No.	Territory.	Name.
2038	President's locomotive	Jack Hartney
2621	Mattawamkeag-Moosehead	Ed. Cooney
2597	Newport	Geo. Magowan
2213	Sherbrooke	Bil Stapleton
2504	Three Rivers	Harry Leclerc
555	Ste. Agathe, Montreal	Bill Singleton
2518	Point Fortune	Art. Charlebois
2221	Winchester	Mike Carmody
2021	Chalk River	Michael Charrier
2625	Belleville	Steve O'Hara
2623	Oshawa	Billy Burnett
2554	Peterborough	Ed. Williams
2214	Havelock	Joe Dorricott
68	Port McNicoll	Shiner Rose
2659	Mactier	Jack Douglass
2055	Brooks	William Wilson
2230	Galt	Jack Mains
2223	Windsor	Geo. Blencoe
2528	North Bay	Geo. Leach
2597	Parry Sound	Frank Reynolds
2606	Cartier	Tom Turner
2509	Nemegos	Bill McAdam
2665	Heron Bay	Harry West
2626	White River	Jas. Rose
2663	Nipigon	Alfred Bilbie
2093	Webbwood, Thessalon	Jack Beattie
2527		H. Jackson
3491		A. Langlois
	St. Stephen-Edmundston	Jim Foster
		Harry Saunders
		Alec McQuarrie
	St. John	Charlie Lamoureux
	M. and O.	Jack Smith
2531	Kenora	Blennerhassett
2565	Kenora	Billy Woods
2631	Portage	Ash Kennedy
2648	Kenora	Kendall
2649	Portage	Jim Stuart
2523	Brandon	Jack Pascoe
2634	Regina	James Wilson
2651	Regina	Jim Brownlee
566	Nelson	Art Denman
567	Revelstoke	Armstrong
586	Revelstoke	Crawford
578	Vancouver	Bob Mee
466	Revelstoke	Lew Patrick
2585	Cranbrook	Tom Gill
562	Cranbrook	Dan Murphy
2540	Vancouver	Duke MacKenzie
2638		F. Allott
2057		Adam Hopkirk
2650		Con. Leary
2068		Andy McFarlane
2586	Vancouver	Ted Hosker

Birthdays of Transportation Men in November.

Many happy returns of the day to—

F. W. Alexander, Engineer, Alberta District, C.P.R., Calgary, born at Fredericton Jct., N.B., Nov. 22, 1878.

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

A. B. Atwater, Assistant to President, lines west of Detroit and St. Clair Rivers, G.T.R., Detroit, Mich., born at Sheffield, Ohio, Nov., 1845.

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

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

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

J. R. Cameron, Assistant General Manager, Canadian Northern Ry., Winnipeg, born at Truro, N.S., Nov. 5, 1865.

F. H. Clendenning, Division Freight Agent, B.C. Coast Service and Ocean Steamship Lines, C.P.R., Vancouver, B.C., born at Montreal, Nov. 9, 1881.

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

W. L. Crighton, Advertising Agent, Canadian Government Railways, Moncton, N.B., born at Derby, Eng., Nov. 9, 1871.

W. R. Davidson, General Superintendent, Eastern Lines G.T.R., Montreal, born at Everton, Mo., Nov. 8, 1871.

W. R. Devenish, Superintendent, District 3, Intercolonial Division, Canadian Government Railways, Moncton, N.B., born in County Tipperary, Ireland, Nov. 21, 1882.

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

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

Jos. Dubrule, jr., Manager, Canadian Pacific Car & Passenger Transfer Co., and President, Prescott & Ogdensburg Ferry Co., Ltd., Prescott, Ont., born at Spencerville, Ont., Nov. 14, 1872.

R. L. Fairbairn, General Passenger Agent, Canadian Northern Ry., Toronto, born at Stillwater, Minn., Nov. 24, 1880.

J. E. Gibault, Resident Engineer, District 1, Transcontinental Division, Canadian Government Railways, Quebec, Que., born at St. Jerome, Terrebonne County, Que., Nov. 16, 1887.

H. E. Haanel, Superintendent, Dominion Atlantic Ry, Kentville, N.S., born at Cobourg, Ont., Nov. 2, 1880.

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

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

J. McGillivray, Receiver and Manager, Inverness Ry. & Coal Co., Inverness, N.S., born at Nairn, Scotland, Nov. 13, 1867.

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

A. B. McNaughton, General Yardmaster, Ottawa Terminals, G.T.R., Ottawa, Ont., born at Arnprior, Ont., Nov. 10, 1877.

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

G. H. Nowell, Master Mechanic, Nelson Division, British Columbia District, C.P.R., Nelson, born at Montreal, Nov. 13, 1885.

W. J. Quinlan, District Passenger Agent, Grand Trunk Pacific Ry., Winnipeg, born at Montreal, Nov. 21, 1883.

J. J. Rose, ex-General Agent, Union Pacific System, Toronto, born there, Nov. 22, 18780.

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

P. D. Sutherland, General Agent, Passenger Department, Canadian Pacific Ocean Services, Ltd., Hong Kong, China, born at Toronto, Nov. 2, 1879.

L. C. Thomson, ex-General Storekeeper, Eastern Lines, Canadian Northern Ry., Toronto, now in Imperial Munitions Board's service, born at Kingston, Ont., Nov. 25, 1882.

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

H. E. Whittenberger, General Manager, Grand Trunk Western Lines Rd., Chicago, Ill., born at Peru, Ind., Nov. 9, 1869.

C. G. Washbon, ex-Resident Engineer, Medicine Hat, Alta., now at Terrys Point, Va., born at Morris, N.Y., Nov. 27, 1887.

W. A. Whyte, District Freight Agent, Canadian Northern Ry., Regina, Sask., born at Hornsey, Eng., Nov. 24, 1890.

Aircraft Transport & Travel of Canada, Ltd., has been incorporated under the Dominion Companies Act, with authorized capital stock of $250,000 in preference shares, and 2,500 common shares without nominal or par value, provided that the capital employed shall be $262,500. The head office is at Montreal. The company has power to manufacture and deal in aeroplanes, balloons, airships and flying machines of all kinds, and to establish and maintain a regular service for the carriage of passengers and freight by air, water and land.

Co-Ordination of the Various Branches of the Mechanical Department.

By W. U. Appleton, Superintendent of Motive Power, Canadian Government Railways, Moncton, N.B.

A system for regulating and combining the various branches of the mechanical department into one organization that will produce satisfactory service in the general repair shop and the operating department, obviously, must be broad and definite in its principles. Harmony between the various officers is essential, and the relationship between the branches must be very intimate. Success cannot be obtained if the general repair shop and the operating departments are not closely allied, as if the shop superintendent is working with the one object, "output," and the operating officers are not making every effort to obtain the greatest mileage from the locomotives, consistent with good service and economy, failure is sure to result.

In order to get results, it is necessary that we should have that co-operation, whereby the shop superintendent and all his subordinate officers are giving the same attention to proper repairs as to output, and it should be the object and pride of every master mechanic and his subordinate officers to obtain the greatest mileage between shoppings with the least number of failures. To repair a locomotive quickly, cheaply and properly, should be the ambition of the shop superintendent. To maintain it in service, with a minimum expense and the greatest number of miles between failures and shoppings, should be the aim and object of the master mechanic.

When locomotives are sent to the shop, there should be some system of defining the class of repairs required, and the writer believes that three classes, as described below, is the best method from the different points of view and sufficient to take care of all repairs. No. 1—General repairs, including a new firebox, a new cylinder or other such extra heavy repairs. No. 2—Ordinary general repairs. No. 3—Specific repairs that may be carried out at the roundhouse or shop. Abbreviations as follows should be used in conjunction with the numbers to describe specific repairs:

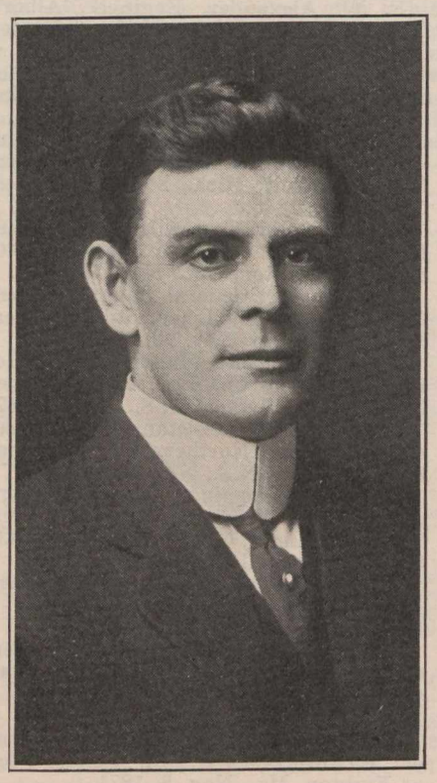
No. 1, Repair—
- Convers. means conversion to superheater, etc.
- Boil. means new boiler.
- F. B. means firebox.
- Cyl. means cylinder (1 or 2).
- Fra. means frames.
- Int. means internal examination.
- Ext. means external.
- Der. means derailment.

No. 2, Repair—
- Ext. means external.
- Der. means derailment.
- T. means new tires.

No. 3, Repair—
- T. T. means tires turned.
- Fr. W. means frame welded.
- An. T. means annual test.
- In. means internal examination.
- TU. means fixing up tubes.
- DB. means driving boxes.
- Der. means derailment.

No. 1 or no. 2 repairs should not indicate any difference in the condition of the locomotives when turned out of the shop, as far as the operating department is concerned, as the distinction is only made for the information and assistance of the shop force in effecting repairs, and either of these repairs should represent a locomotive in first class condition in every respect, and capable of making the standard mileage of its class, according to the physical characteristics of the division on which it is employed and the service it is in.

The condition of all parts of the locomotive should be as nearly balanced as possible, in order to obtain the greatest mileage with the least loss of service, and it is false economy to turn locomotives out of the shop, represented as having received the above classes of repair, with certain parts somewhat worn, due to having been renewed a short time previous to shopping. For instance, it may seem wasteful to renew tubes or some part of the machinery that is apparently still capable of making considerable mileage, but as these parts will become defective and make renewal necessary before those that were brought up to standard of shop practice, the result usually is: locomotive out of service when badly required—delay in effecting repairs—and higher cost of doing so on account of lack of facilities



W. U. Appleton,
Superintendent of Motive Power, Canadian Government Railways.

at locomotive houses as compared with shops.

No. 3 Repair—This differs entirely from those referred to. It represents specific work and may be done at locomotive houses or shops, and is sometimes the result of an accident to or failure of some particular parts, but is generally due to ordinary wear and tear of certain parts of the locomotive that are subject to the most severe service. The parts subject to the greatest wear would not, if the locomotive is properly maintained while in service, represent sufficient work to justify a no. 1 or no. 2 repair, and in order to enable these parts to continue their work until the locomotive is generally worn to the extent necessary to justify a shop repair, it is usually economical to effect such repairs.

The latter class of repair generally consists of partial renewal of tubes and flues, rod bearing work, lining up wedges, examination of pistons and valves, refitting main driving boxes and sometimes tire turning, and removal of lateral play from wheels. The parts requiring attention will, of course, be found to vary considerably with the different classes of locomotives, as well as with the different classes of service they give and the subdivisions on which they are employed. In some classes of locomotives, on some subdivisions, the tubes and flues will run from shopping to shopping with very little trouble, while others on the same division, or the same class on other division will require partial renewal when little more than half the required mileage has been accomplished.

The constant introduction of larger power is so changing conditions as to make the question of doing no. 3 repairs at locomotive houses one of considerable controversy, and the question naturally arises as to the best method of taking care of this work. In the writer's opinion the no. 3 repair should be continued and not confused with the heavier repairs under classes 1 and 2, this being important in order to determine the condition of the power at all times, based on mileage made according to class of repairs, and to avoid expenditures being made on the power that should not be necessary.

Facilities at locomotive houses are generally inadequate to take care of this work, except on the smaller and medium classes of power. At locomotive houses where there is a heavy fluctuation in traffic, it is an advantage to have a no. 3 repair gang, as it enables those in charge to hold their staff together and they can be employed to advantage on running repairs when necessary.

In general repair shops, where the work is done on schedule and arranged so that the locomotives will be turned out at regular intervals and no. 3 repairs cannot be taken care of without interfering with the regular work, it is a debatable question as to the advisability of breaking up the organization in order to take care of this work, although under existing conditions there is usually no alternative. The changing conditions will, no doubt, make it necessary to provide certain space in general repair shops for this class of work, where it may be done at lower cost than at locomotive houses, but where locomotives have to be hauled or worked a long distance, to get to the general repair shop for such repairs, it might be advisable to provide a small shop for this class of repair, if the number of locomotives tributary to the same is sufficient to justify it.

To enable the shop superintendent to plan his work and maintain his schedule, it is only fair that he should be given all the advice possible as to the class of repair, and a list of the important parts that require replacement at least 30 days in advance of the locomotive going to the shop. While it may not always be possible to do this on account of locomotives being damaged in accidents, there is no reason why it cannot be done to a very large extent in ordinary service. A form for reporting the work, as shown herewith, has been found to be very satisfactory.

When making out this report of shop repairs required, master mechanics should devote particular attention to the note advising them to describe any special or unusual defect.

We all know that when a group of locomotives is built from the same drawings,

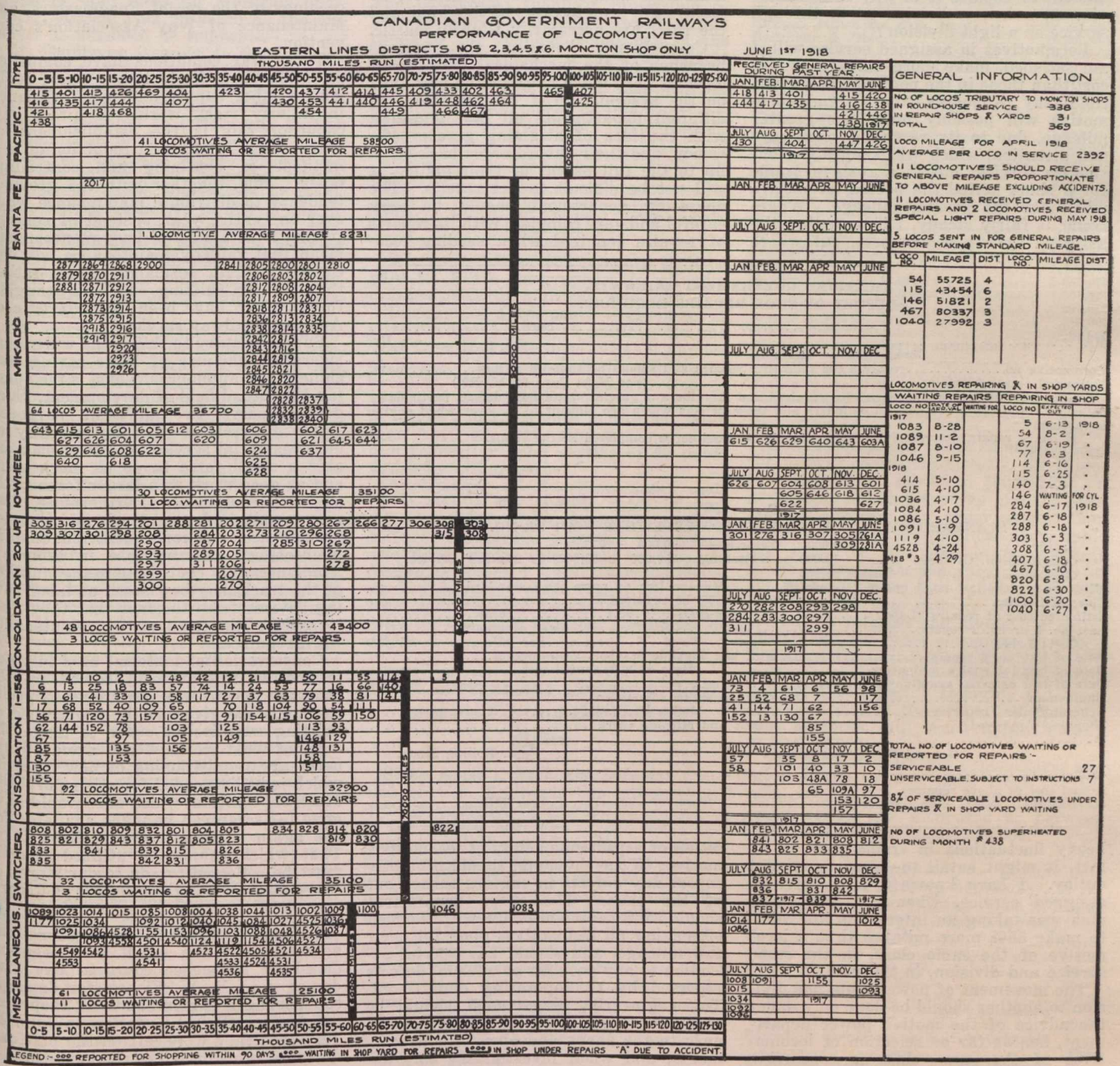
even though all the parts are duplicate in every respect, no two of the locomotives will behave alike in service, but that each individual machine will have its own peculiar virtues and vices. For instance, one locomotive may jig and ride badly; perhaps the fault is more apparent at certain speeds than at others, and again it may vary with the position of the reverse lever and according to whether the locomotive is working hard or light. There are several things which might cause this trouble, and unless full particulars are given the real cause may be overlooked; but if the master mechanic will take particular care to describe the defect with all the symptoms, he will give the shop superintendent a chance to determine the seat of the trouble.

On taking over a locomotive from the shop after repairs, the operating department should keep a very sharp lookout for any defect which may be actually present, or beginning to develop, and these defects should be completely reported to the shop superintendent within 30 days of the date the locomotive goes into service. What too often happens is that the operating department officials will run the locomotive until there is a failure and then endeavor to throw the whole blame for the failure on the shops, whereas they are really as much to blame as the shops for not reporting the defect in good time.

There are some kinds of defects which often manifest themselves on a locomotive from the shops, which will disappear after a few days or a few weeks in service, and the operating department often makes the mistake of neglecting to report these defects, as they feel confident that the locomotive will come round to its work after a week or two in service. Very often their judgment proves correct, but the best policy in cases of this kind is to report the defect immediately, keep a strict watch on it and if no improvement is noticeable within a very short time the defect must be rectified to avoid any chance of locomotive failure.

The standard maintenance regulations in force on most roads, if faithfully carried out, will prevent a very large percentage of ordinary running failures, but there is a class of failure which cannot be guarded against by any such regulations. I mean failures due to faulty design and poor material. To deal with the failures of this kind is, obviously, the business of the engineering department, and its first and greatest effort should be to locate the prime cause of the failure. Very often, the actual part which fails is not the part which is at fault, and if we go ahead blindly and strengthen this part, the evil will only break out in another place, very likely with worse results, so that the maxim of the engineering department should be first to find the absolute root of the trouble and then rectify it.

To determine the mileage that should be obtained from the different classes of locomotives, study and investigation would be required, and, in the writer's opinion, a minimum mileage requirement should be established for all sub-divisions for the various classes of locomotives according to service, after receiving a no. 1 or no. 2 repair—and if this is not done,



there is every possibility of locomotives being shopped for expensive repairs before actually required, while others, overdue for shopping on a basis of work done, remain in service, a source of trouble and expense to everybody. We make tests and establish standards as to tonnage, that locomotives of the same class shall haul and they are not arbitrary for all divisions irrespective of grades and curves—then why require a locomotive to make as much mileage with the same amount of repairs if in way freight service on a heavy division as in through service on a light division?

Locomotives in assigned service will, I am satisfied, make more mileage at less cost than those in the pool, and in a given time—say 18 months—the assigned locomotive will possibly make the greater mileage, due to its receiving more care and attention, which will keep it in continuous service; but in a rush of traffic for a short period the pooled locomotive will make the greater mileage. Where traffic is fairly steady, I believe that the assigned system is the best, but where heavy fluctuations in traffic have to be met, it might entail too great a capital outlay. I have known a locomotive in assigned service, when the locomotive man was taking an interest in his work, to make 55% more mileage than a locomotive of the same class, in the same service and division, in the pool.

The movement of power from one division to another should be done only under the advice of the motive power department, i.e., as far as selection of locomotives of the same class is concerned, otherwise it would possibly result in some locomotive houses having a high percentage of power over the shopping period and other with a similar proportion of power just out of the shop.

In order that we may have a comprehensive idea of the condition of our power at all times, the monthly statement reproduced herewith, showing the monthly mileage report of locomotives tributary to Moncton shops at June 1, 1918, has proved to be of considerable value. The form is self-explanatory and it is easy to get an idea of the condition of any particular locomotive, of the general condition of a particular class of locomotive, motives to the shop, and should promptly report any defects in engines turned out of the shop. The shops department should work conscientiously, with the idea of making all locomotives good for their full mileage, and should pay special attention to any peculiar or unusual defects reported by the operating department. The engineering department should be ready at all times with advice and assistance to the shops and operating departments, and when investigating any defects should spare no pains to get right at the root of the trouble before attempting to eliminate it.

The foregoing paper was to have been read before the Canadian Railway Club in Montreal early in October, but owing to the influenza epidemic, its reading was postponed until the November meeting.

CANADIAN GOVERNMENT RAILWAYS.
REPORT OF SHOP REPAIRS REQUIRED.

Station.....Date.....

Mr. ..... Ry.

General Master Mechanic.

Locomotive no.....requires the following repairs and should be shopped within.....days.
Estimated class of repairs .....(See Main Card 99 M. R2.)

Give general description of repairs required and describe any special or unusual defect, particularly defective counterbalance, cracked cylinders and those defects which are difficult to discover when engine is in shop.

If No. 3 repair, describe fully what work is required to be completed in the shops.

STANDARD MILEAGE BETWEEN REPAIRS, EITHER NO. 1 OR NO. 2.

Pacific	100,000	Ten-wheel	90,000
Consolidation, C1 Class	70,000	Switching	50,000 to 60,000, or 2 years' service.
Consolidation, C2, 3 & 4 Classes	80,000		

Miles made since last no. 1 or no. 2 repair.....Mileage less or more than standard.....%
Class of Service .....To be repaired at .....
Estimated cost of repairs: Labor .....Material .....Total.....
Last no. 1 or no. 2 repair .....Place .....Class of repair.....
Cost: Labor .....Material .....Total .....Per mile .....
Date of last no. 3 repair .....Date of last Flexible Staybolt Examination.....
Date of last internal examination .....Date of last annual test .....
Date of last external examination .....
Engineman .....Checked and signed, Foreman .....
General Boiler Inspector .....Master Mechanic .....
Shopping Approved: Cost and Mileage Clerk .....

General Master Mechanic. Supt. Rolling Stock.

Date.....

Actual cost of above repairs:
....Labor..... Material..... Total..... Per Mile.....

The Railway Y.M.C.A. at Field, B.C., was opened Oct. 2 in the building operated formerly by the C.P.R. as the Mount Stephen Hotel. It has 55 bedrooms, with dining and luncheon rooms in connection.

War May Put Railway Track Work on a New Basis.

As a result of war conditions railway maintenance of way seems likely to attain a higher plane and to be accorded the attention which its importance to railway service demands. Such result will come, however, only through a trying and strenuous period of change. This radical change has been foreshadowed for some time and is indicated anew by the proceedings of the recent Roadmasters' and Maintenance of Way Association's convention.

These war conditions have compelled attention particularly to the vexed problem of labor supply and labor efficiency in railway track work. A direct outcome of this is the establishment of higher wages and the introduction of new methods of obtaining and controlling labor. This, together with the growing tendency to distribute maintenance work over the entire year, instead of concentrating it within a few busy months, may mean that railway maintenance will become a field for permanent gangs rather than for the shifting and ever-changing forces which have been characteristic of American railway service.

Supplementary to this is the wider consideration and use of labor saving machinery and appliances, which is the opening of a broad field of development. Such devices serve two different purposes. They may release men for military or other essential service, and they may enable a small force to do as much work and as good work as a larger force without such equipment. Furthermore, they may result in better work and greater permanence with consequent reduction in maintenance and increase in economy. Appliances that contribute to the stability of the track may be classed as labor saving devices from the fact that they tend to reduce the amount of maintenance work required.

Conservation of material used in track is another improvement forced by the shortage due to war conditions. Special care must be given to the proper use of existing supplies in order to make the most of what we have and avoid all unnecessary requisitioning of new material which is badly needed for other purposes. Much old material which once would have gone for scrap can be made available for use again if proper care is given to it. That which cannot be utilized directly must be collected to add to our stores of raw material.—Engineering News Record.

Railway Company's Liability for Damaged Goods.—The C.P.R. has been ordered by a Quebec court to pay $229 damages to M. W. Fisher, for damages to 4 packages of merchandise. They were delivered at Bellamy station on June 28, 1917, and they were left on the platform during a rainstorm. The company claimed that they were left in an exposed position by the consignor, and therefore it was not liable for any damage. The court held that the responsibility for caring for goods delivered to it for consignment belonged to the company directly they were delivered into its agent's possession.

A. W. Smithers, Chairman of the Board, G.T.R., is expected in Montreal shortly to make his annual inspection trip over the line. It is reported that during his visit he will discuss with the Dominion Government the question of the acquirement of the G.T.R. and the G.T. Pacific Ry. for the Dominion.

Canadian Pacific Railway Commercial Telegraphers Wages, Etc.

Canadian Railway Board of Adjustment, no. 1, gave the following decision Sept. 13, on the points at issue between the C.P.R. and its commercial telegraphers, after hearing arguments of each party to the controversy:—

1. Definition of "Commercial Telegraphers" and rates for Morkrum operators. Article 1 as proposed by the employes is amended as follows:—

"1. Employes assigned to the commercial telegraph service, whether operated by the Morse system, telephone or any automatic device of any character, or who are required to devote any portion of their time to the transmission or receiving of telegraph matter by any device whatsoever (not including agents, wire chiefs, traffic supervisors or traffic chiefs having authority to hire or discipline employes) will be considered commercial telegraphers within the meaning of this schedule. This does not apply to employes handling such matter by telephone during the act of filing for transmission or delivery.

"2. Morse telegraphers, when not required to work as such, shall, if competent, have the right to operate any automatic device for the purpose of transmitting or receiving telegraph matter at the rate they were receiving in optional group as Morse operators in the office affected. Seniority shall govern."

Rate for Morkrum operators. Article 8, Clause 2, amended as follows:—"The rate for Morkrum employes shall be $75 a month for the first year's service and $85 a month thereafter."

Minimum performance. Article 6, clause 4, amended as follows:—"The average minimum performance on all Vancouver-Winnipeg, Montreal-Winnipeg, Montreal-Vancouver and Toronto-Winnipeg circuits, not including Morkrum operators, shall be 30 messages an hour, and on all other first class circuits 33 messages an hour, allowing 30 words to count as one message in case of press, and 20 shall be counted as one message in r.s. business and night lettergrams. Chief operators and traffic chiefs shall determine the carrying capacity of the circuit, and any loss through interruption shall not be charged against the telegrapher's average."

2. Working hours. Article 6, clause 1, of present schedule amended as follows: "At offices where two or more telegraphers are employed, the hours of duty shall be as follows: Eight hours shall constitute straight day duty, beginning and ending between 7 a.m. and 6 p.m. Seven hours shall constitute all night duty, beginning at or later than 8 p.m. Seven and a half hours shall constitute all other tricks. No trick shall be split more than once or extended over 12 hours. At all other offices the hours of duty shall be 10 consecutive hours, including one hour for lunch."

3. Overtime rate. Article 6, clause 3, of the present schedule reads:—"Overtime will be computed at the rate of 7 hours a day." The foregoing clause is amended as follows:—"Overtime accruing within 8 hours' service shall be paid for pro rata. Overtime after 8 or 9 hours' service, as the case may be, shall be paid for at time and one-half."

4. Inclusion of telegraph chiefs in schedule. The following words are inserted in article 1, clause 1, after the word "whatsoever":—"Not including agents, wire chiefs, traffic supervisors or traffic chiefs having authority to hire or discipline employes."

5. Interpretation of McAdoo award. The board decided that neither of the bases submitted by the contending parties for rates in percentage offices was a correct application of the McAdoo award. The board also found it impossible to strictly apply the McAdoo award, on account of the changed conditions in the offices affected since 1915. On request of the parties to the dispute, the board established a basis for the readjustment of rates in these offices as follows:—

Vancouver Office—	Basic rate.	McAdoo award.
30%	$100 a month.	$131.75 a month.
30%	94 a month.	126.75 a month.
30%	88 a month.	121.75 a month.
Toronto Office— —		
30%	90 a month.	123.25 a month.
30%	84 a month.	117.60 a month.
20%	78 a month.	109.98 a month.
20%	Optional.	
10%	Optional.	

Minimum rate of $85 a month shall be paid to Morse telegraphers in all percentage offices in both east and west.

Duration of agreement.—Agreement is effective May 1, 1918, to continue for one year from that date in so far as it applies to wages. Agreement, in its pertinence to rules, shall become effective Oct. 1, 1918, and shall continue in effect both as to wages and rules until a rate not later than April 30, 1919, subject to termination thereafter upon service of 30 days' notice by either party.

Application of overtime rates and rules.—While the specific rates of pay named herein will be retroactive to May 1, 1918, the special overtime provisions established under this award will be effective as of Oct. 1, 1918. Overtime hours worked between May 1 and Sept. 30, 1918, will be paid for at the increased rates on the basis of rules heretofore in effect.

What Government Control of Railways is Costing the United States.

Since April 1, 1918, the Director General of U.S. Railroads has advanced to railway companies $294,845,170, exclusive of the current earnings of the roads applied directly by the individual roads to their current expenses and corporate needs. This amount went to 85 different roads or systems. The disbursements for September aggregated $52,993,750.

Of the total disbursed to Oct. 1, $209,347,910 was taken from the $500,000,000 revolving fund, and $85,497,260 came from the surplus earnings of various roads which were turned over to the Director General by the limited number of roads whose receipts for the period exceeded their requirements.

The total amount turned over to the Director General for the common fund from April 1 to Oct. 1 by roads reporting surplus earnings was $113,000,000. To this should be added $10,419,944 received from the new American Railway Express Co., making the total receipts from railway and express companies for the period $123,419,944.

Of the $113,000,000 turned over by the roads, $64,507,660 went back to roads temporarily making the deposits with the Director General, these same roads subsequently calling upon the Railroad Administration for advances considerably in excess of the deposits which they had thus temporarily turned over. Among the companies which have made deposits for the common fund during this period which have not asked for the refund of any portion of the funds deposited were the Northern Pacific Ry., which deposited $2,500,000; the Pere Marquette Ry., $1,500,000, and the Pullman Car Lines, $1,000,000.

Among the advances made the railways up to Oct. 1, 1918, were the following:—

New York, New Haven & Hartford...	$48,464,000
Pennsylvania	43,600,000
New York Central.....	42,920,000
Chicago, Milwaukee & St. Paul.....	16,725,000
Baltimore & Ohio.....	16,500,000
Illinois Central	13,775,000
Erie	10,900,000
Chicago, R. I. & Pac.....	7,700,000
Southern Pacific	7,500,000
Southern	5,940,000
Chicago, Bur. & Quincy.....	5,800,000
St. Louis-San Francisco.....	5,608,000
Union Pacific	5,000,000
Denver & Rio Grande.....	4,400,000
Missouri Pacific	3,550,000
Lehigh Valley	3,500,000
Delaware & Hudson.....	3,500,000
Chicago & Northwestern.....	3,300,000
Wabash	3,225,000
Buffalo, Rochester & Pittsburgh.....	2,600,000
Philadelphia & Reading.....	1,400,000
Chicago & Alton.....	1,400,000
Minneapolis & St. Louis.....	1,350,000
Chicago, St. Paul, Minneapolis & Omaha	1,350,000
Grand Trunk Western.....	621,000
Boston & Maine.....	550,000
Chicago Great Western.....	507,660
Minneapolis, St. Paul & Sault Ste. Marie	350,000
Bangor & Aroostook.....	300,000
Central Vermont Ry.....	285,000
Duluth, South Shore & Atlantic.....	150,000
Rutland	116,000
Maine Central	100,000

In addition to the above sums advanced the railway companies directly, the Director General has advanced $30,660,255 on account of orders placed by him for locomotives and cars now under construction.

The payments shown in the above table are exclusive of very large amounts which were taken from the earnings of the roads between Jan. 1, 1918, and July 1, by the various railway companies to meet their interest and dividend requirements, and for other corporate purposes. The total funds therefore which the railway corporations have received since Jan. 1 from the Director General, and from the operations of the properties, and current balances, will reach approximately $1,000,000,000.

The current operating expenditures and taxes of the railway lines which the Director General has also paid during the same period are estimated at between $3,000,000,000 and $3,500,000,000.

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

	Acres
Alberta & Great Waterways Ry.....	6.92
Calgary & Edmonton Ry.....	797.83
Canadian Northern Ry.....	480.00
Canadian Pacific Ry. grants.....	480.98
Canadian Pacific Ry. roadbed and station grounds.	23.90
Edmonton, Dunvegan & British Columbia Ry.	82.58
Qu'Appelle, Long Lake & Saskatchewan Rd. & Steamboat Co.....	940.10
Total	2,757.31

Maintenance of Way Flagging Rules for Impassable Track.—Amendments to these rules were published in full in our last issue. Two typographical errors occurred in our reproduction, one being in paragraph 5, which should have referred to trains stopped by red signal, as per rule 3 (b), and not as per rule 3 (c); and the other in paragraph 9, referring to the use of a signal device, for displaying signals to be provided under rules 3 (b) and 8, which should have read rules 3 (b) and 6.

Wages of Clerical, Station and Similar Forces on Railways.

At a meeting of the Canadian Railway War Board's Administrative Committee Sept. 30 it was decided to put into effect as from Sept. 1, 1918, the rates of pay and conditions as outlined in Supplement 7 to General Order 27 of the Director General of the United States Railroad Administration, on the basis of the interpretations as outlined below. The supplement is subject to some further interpretations on points which are not yet altogether clear, but in order to avoid delay in applying increased rates of pay, the supplement is to be made effective as outlined, and employes have been advised accordingly.

CLERKS AND MISCELLANEOUS EMPLOYES.

Effective Sept. 1, superseding General Order 27, and in lieu thereof, as to employes herein named, the following rates of pay and rules for overtime and working conditions for all clerical forces in all departments, and for certain employes in stations, storage and terminal warehouses, docks, storehouses, shops and yards, upon railroads under federal control, are hereby ordered:

Article 1—Rates of Pay.—(a) For all employes who devote a majority of their time to clerical work, of any description, including train announcers, gatemen, checkers, baggage and parcel room employes, train and engine crew callers, and the operators of all office or station equipment devices (excepting such as come within the scope of existing agreements or those thereafter negotiated with the railroad telegraphers), establish a basic minimum rate of $62.50 a month; and to this basic minimum rate and all rates of $62.50 and above, in effect as of Jan. 1, 1918, prior to the application of general order 27, add $25, a month, establishing a minimum rate of $87.50 a month.

Interpretation—This clause includes:—All clerical forces, train announcers, station gatemen, freight shed checkers, car checkers, freight shed car service men, baggage and parcel room employes, train and engine crew supervisors. This clause does not include any employes covered in the telegraphers' schedule, clerical forces under 18 years of age, call boys (see article 6). Pending the receipt of more definite information, an increase of $25 will be applied to the established rates of all positions as of Jan. 1, 1918. It is understood that in a few instances this may produce decreases from rates approved under the original application of general order 27.

(b) This order shall apply to chief clerks, foremen, sub-formen and other similar supervisory forces of employes herein provided for.

Interpretation:—This clause covers chief clerks, freight shed foremen, subforemen, traffic supervisors, travelling auditors, travelling freight and passenger agents and positions of similar character.

(c) For office boys, messengers, chore boys, and other employes under 18 years of age, filling similar positions, and station attendants, establish a basic minimum rate of $20 a month, and to this basic minimum rate and all rates of $20 a month and above, in effect as of Jan. 1, 1918, prior to the application of general order 27, add $25 a month, establishing a minimum rate of $45 a month.

Interpretation:—This clause includes office boys, messengers, chore boys, clerical forces under 18 years of age, station and waiting room attendants regardless of age. This clause does not include employes covered by telegraphers' schedule (see clause A, article 1), charwomen, "red cap" porters, call boys (see articles 6 and 9). This clause provides for an increase of $25 a month over the rate in effect on Jan. 1, 1918, and establishes a minimum of $45 a month.

(d) For all other employes, not otherwise classified, such as janitors, elevator and telephone switchboard operators, office, station and warehouse watchmen, establish a basic rate of $45 a month, and to this basic minimum rate, and all rates of $45 a month and above, in effect as of Jan. 1, 1918, prior to the application of general order 27, add $25 a month, establishing a minimum rate of $70 a month.

Interpretation:—This clauses includes janitors, elevator operators, telephone switchboard operators, watchmen (office, station and warehouse). This clause provides for an increase of $25 a month over the rates in effect on Jan. 1, 1918, and establishes a minimum of $70 a month.

(e) The same increases provided for in sections a, b, c and d of this article shall apply to employes named therein paid on any other basis.

Interpretation:—This permits the continuation of the present practice of paying employes on monthly, daily and hourly or any other basis, provided that increases on the basis of $25 a month, 96c a day or 12c an hour are added to the rates in effect at Jan. 1, 1918.

(f) The wages for new positions shall be in conformity with the wage for positions of similar kind or class where created.

Article 2, Stationary engineers (steam), firemen and power house oilers.—(a) For all stationary engineers (steam), establish a basic minimum rate of $85 a month and to this basic minimum rate, and all rates of $85 and above, in effect as of Jan. 1, 1918, prior to the application of general order 27, add $25 a month, establishing a minimum rate of $110 a month.

(b) This order shall apply to chief stationary engineers.

Interpretation:—For chief stationary engineers and all stationary engineers (steam), this clause provides for an increase of $25 a month over the rates in effect on Jan. 1, 1918, and establishes a minimum of $110 a month.

(c) For all stationary firemen and power house oilers, establish a basic minimum rate of $65 a month, and to this basic minimum rate, and all rates of $65 and above, in effect as of Jan. 1, 1918, prior to the application of general order 27, add $25 a month, establishing a minimum rate of $90 a month.

Interpretation:—For stationary firemen and power house oilers this clause provides for an increase of $25 a month over the rates in effect on Jan. 1, 1918, and establishes a minimum of $90 a month.

Article 3—Locomotive Boiler Washers. For all locomotive boiler washers who were on Jan. 1, 1918, prior to the application of general order 27, receiving less than 26c an hour, establish a basic minimum rate of 26c an hour, and to this basic minimum rate, and all hourly rates of 26c and above, add 12c an hour, establishing a minimum rate of 38c an hour, provided that the maximum shall not exceed 50c an hour.

Interpretation:—Covered by Canadian Railway War Board Wage Agreement no. 1, article 7, clause B.

Article 4—Power Transfer and Turntable Operators.—For all operators of power driven transfer and turntables who were on Jan. 1, 1918, prior to the application of general order 27, receiving less than 21c an hour, establish a basic minimum rate of 21c an hour, and to this basic minimum rate, and all hourly rates of 21c and above, add 12c an hour, establishing a minimum rate of 33c an hour, provided that the maximum shall not exceed 45c an hour.

Interpretation:—Operators of power driven transfer tables are covered by Canadian Railway War Board Wage Agreement No. 1, article 7, clause E. For employes regularly assigned to operate power driven turntables, this clause provides for an increase of 12c an hour over the rates in effect on Jan. 1, 1918, and establishes a minimum of 33c an hour and a maximum of 45c an hour.

Article 5—Shop, roundhouse, station, storehouse and warehouse employes (except employes provided for in awards).—(a) For all laborers employed in and around shops, roundhouses, stations, storehouses and warehouses (except employes provided for in harbor awards), such as engine watchmen, and wipers, fire builders, ashpit men, boiler washer helpers, flue borers, truckers, stowers, shippers, coal passers, coal chute men, etc., who were on Jan. 1, 1918, prior to the application of general order 27, receiving less than 19c an hour, establish a basic minimum rate of 19c an hour, and to this basic minimum rate, and all hourly rates of 19c and above, add 12c an hour, establishing a minimum rate of 31c an hour, provided that the maximum shall not exceed 43c an hour.

Interpretation:—This clause includes engine watchmen, engine wipers, fire builders, ashpit men, boiler washer's helpers, flue borers, coal passers, coal chute men, hostler's helpers, truckers, stowers, shippers, coopers, derrick men (freight yard), car sealers, freight shed car service men's helpers, employed in and around shops, roundhouses, stations, storehouses and warehouses, and provides for an increase of 12c an hour over the rates in effect on Jan. 1, 1918, and establishes a minimum of 31c an hour and a maximum of 43c an hour.

(b) For all common labor in the departments herein referred to and not otherwise provided for, who were on Jan. 1, 1918, prior to the application of general order 27, receiving less than 16c an hour, establish a basic minimum rate of 16c an hour, and to this basic minimum rate and all hourly rates of 16c and above, add 12c an hour, establishing a minimum rate of 28c an hour, provided that the maximum shall not exceed 40c an hour.

Interpretation:—For all unclassified labor employed in and around shops, roundhouses, stations, storehouses and warehouses, this clause provides for an increase of 12c an hour over the rates in effect on Jan. 1, 1918, and establishes a minimum of 28c an hour and a maximum of 40c an hour.

Article 6—Monthly, Weekly or Daily Rates.—For all monthly, weekly or daily rated employes, in the departments herein referred to, and not otherwise provided for, increase the rates in effect as of Jan. 1, 1918, prior to the application of general order 27, on the basis of $25 a

month.

Interpretation:—This article includes chief draftsmen, draftsmen, call boys, "red cap" porters and charwomen (except as covered by article 9). For those and all other monthly, weekly or daily rated employes in the departments covered by Supplement 7, and not otherwise provided for, this article provides for an increase on the basis of $25 a month over the rates in effect on Jan. 1, 1918. This article does not include restaurant help, sleeping, parlor and dining car employes, when employed on cars in train service. To these employes, general order 27 will apply except as provided by supplement 2.

Article 7—Maximum Monthly Wage.—No part of the increases provided for in this order shall apply to establish a salary in excess of $250 a month.

Article 8—Preservation of Rates.—(a) The minimum rates, and all rates in excess thereof, as herein established, and higher rates which have been authorized since Jan. 1, 1918, except by general order 27, shall be preserved.

Interpretation:—As already stated, it is understand that in a few cases, this may produce decreases from rates approved under the original application of general order 27. This clause requires the maintenance permanently of rates established for positions as of supplement 7. If, however, the duties required in any position are changed, the compensation for the position may be changed in conformity therewith. (See article 1, clause f).

(b) Employes temporarily or permanently assigned to higher rated positions, shall receive the higher rates while occupying such positions; employes temporarily assigned to lower rated positions shall not have their rates reduced.

Article 9—Exception.—The provisions of this order will not apply in cases where amounts less than $30 a month are paid to individuals for special service which only takes a portion of their time from outside employment or business.

Article 10—Hours of Service.—Eight consecutive hours, exclusive of the meal period, shall constitute a day's work.

Interpretation:—This article definitely establishes the 8-hour day, and when and where practicable the working hours of the day for all classes of employes covered by supplement 7 should be limited to 8 consecutive hours, exclusive of the meal period. Regular working hours for the various classes of employes at the different points should be established and reasonable notice of any change (not less than 40 hours) should be given.

In view of the fact that supplement 7 does not clearly set forth how monthly or daily rates are to be arrived at for the basic 8-hour day, pending the issue of any further interpretation, monthly or daily rates in effect as of Jan. 1, 1918, covering more than 8 hours service per day, should be converted to an 8-hour basis and increases of $25 a month and 96c a day respectively added thereto, resulting rates to cover 8 hours service a day. The examples shown below are worked out on this basis. This basis is justified by the language of article 5, which for hourly rated men provides increased compensation per hour on rates employes were receiving per hour as of Jan. 1, 1918.

The principle of converting monthly and daily rates to an 8-hour basis is confirmed by the method set forth in article 3, general order 27, for applying basic 8-hour day rules.

EXAMPLES.

Method of Applying Basic 8-hour Day Rules.—

1. Position which on Jan. 1, 1918, paid $2 a 9-hour day. Old rate for 9 hours service $2; old rate for 8 hours 8/9 of $2—$1.78; new rate for 8-hour basic day $1.78, plus 96c (8 hours at 12c)—$2.74. If employe continues to work 9 hours a day wages would be $2.74 plus 1 hour overtime at 34¼c (1/8 of $2.74)—$3.

2. Position which on Jan. 1, 1918, paid $2.40 a 10-hour day. Old rate for 10 hours service $2.40; old rate for 8 hours (8/10 of $2.40—$1.92; new rate for 8-hour basic day $1.92, plus 96c (8 hours at 12c)—$2.88. If employe continues to work 10 hours a day, wages would be $2.88, plus 2 hours overtime at 36c (1/8 of $2.88) 72c—total $3.60.

3. Position which on Jan. 1, 1918, paid $75 a month working 10 hours a day for 26 working days. Old rate for month's service $75; old rate for 8 hours (8/10 of $75)—$60; new rate per month for 8-hour basic day ($60, plus $25)—$85. If employe continues to work 10 hours a day wages would be $85 plus 52 hours overtime at 40.6c ($85 divided by 200 hours) $21.25—total $106.2.

4. Position which on Jan. 1, 1918, paid $100 a month, working 11 hours a day for 31 working days. Old rate for month's service $100; old rate for 8 hours (8/11 of $100)—$72.73; new rate per month for 8-hour basic day ($72.73 plus $25)—$97.73. If employe continues to work 11 hours a day wage would be $97.73, plus 62 hours overtime at 39.4c. ($97.73 divided by 248 hours) and 31 hours overtime at 59.1c (one and one-half times 39.4c) $42.75—total $140.

If we consider a 30-day month in place of a 31-day month, as above, and the employe continues to work 11 hours a day, wages would be $97.73, plus 60 hours overtime at 40.7c ($97.73 divided by 240 hours and 30 hours at 61.1c (one and one-half times 40.7c) $42.75—total $140.48.

Article 11—Overtime and Calls.—(a) Where there is not any existing agreement or practice more favorable to the employes, overtime shall be computed for the ninth and tenth hour of continuous service, pro rata on the actual minute basis and thereafter at the rate of time and one-half time. Even hours will be paid for at the end of each pay period, fractions thereof will be carried forward.

Interpretations:—This clause requires the payment of overtime after 8 hours work on any day for all classes of employes covered by supplement 7, but only at a pro rata rate (except where there is an existing agreement or practice more favorable to the employe for the ninth and tenth hours of continuous service, exclusive of the meal period, and at the rate of time and one-half after 10 hours work. (See article 14, clause a). Pay for overtime should not be allowed unless specifically ordered to be worked.

With reference to the last sentence in clause (a), it is permissible and preferable to pay for the actual hours and fractions thereof complete at the end of each pay period, instead of carrying forward the fractions of hours.

(b) When notified or called to work outside of established hours, employes will be paid a minimum allowance of three hours.

Interpretation:—This clause is applicable only when employes have been called after they have gone off duty for the day. When service is continuous, except for the meal period, this clause does not apply.

(c) Employes will not be required to suspend work during regular hours to absorb overtime.

Article 12—Promotion and Seniority.—(a) Promotions shall be based on ability, merit, and seniority, ability and merit being sufficient, seniority shall prevail, except, however, that this provision shall not apply to the personal office forces of such officers as superintendent, trainmaster, division engineer, master mechanic, general freight or passenger agent, or their superiors in rank and executive officers. The management shall be the judge, subject to an appeal, as provided in article 13.

(b) Seniority will be restricted to each classified department of the general and other offices and of each superintendent's or master mechanic's division.

(c) Seniority rights of employes referred to herein, to: (1) new positions, (2) vacancies, will be governed by paragraphs (a) and (b) of this article.

(d) Employes declining promotion shall not lose their seniority.

(e) Employes accepting promotion will be allowed 30 days in which to qualify, and failing, will be returned to former position without loss of seniority.

(f) New positions or vacancies will be promptly bulletined for a period of five days in the department where they occur. Employes desiring such positions will file their applications with the designated official within that time, and an appointment will be made within 10 days thereafter. Such position or vacancy may be filled temporarily pending an assignment. The name of the appointee will immediately thereafter be posted where the position or vacancy was bulletined.

(g) In reducing forces seniority shall govern. When forces are increased, employes will be returned to the service and positions formerly occupied, in the order of their seniority. Employes desiring to avail themselves of this rule must file their names and addresses with the proper official. Employes failing to report for duty or give satisfactory reasons for not doing so within seven days from notification will be considered out of the service.

(h) A seniority roster of all employes in each classified department, who have been in the service six months or more, showing name, date of entering the service, and the date of each promotion or change, will be posted in a place accessible to those affected.

(i) The roster will be revised and posted in January of each year, and shall be open to correction for a period of 60 days from date of posting on presentation of proof of error by an employe or his representative. The duly accredited representative of the employe shall be furnished with a copy of roster upon written request.

Article 13—Discipline and Grievances. (a) An employe disciplined or who considers himself unjustly treated shall have a fair and impartial hearing, provided written request is presented to his immediate superior within 5 days of the date of the advice of discipline, and the hearing shall be granted within 5 days thereafter.

(b) A decision will be rendered within 7 days after the completion of hearing. If an appeal is taken it must be filed with the next higher official and a copy furnished the official whose decision is appealed within 5 days after date of decision. The hearing and decision on the appeal shall be governed by the time limits of the preceding section.

(c) At the hearing or on the appeal the employe may be assisted by a committee of employes or by one or more duly accredited representatives.

(d) The right of appeal by an employe or representative in regular order of succession and in the manner prescribed up to and inclusive of the highest official designated by the railroad, to whom appeals may be made, is hereby established.

(e) An employe on request will be given a letter stating the cause of discipline. A transcript of evidence taken at the investigation or on the appeal will be furnished on request to the employe or representative.

(f) If the final decision decrees that charges against the employe were not sustained, the record shall be cleared of the charge; if suspended or dismissed, the employe shall be returned to former position and paid for all time lost.

(e) Committees of employes shall be granted leave of absence and free transportation for the adjustment of difference between the road and the employes.

Articles 12 and 13. Interpretation:—It is intended that for employes not already covered by schedule agreements the spirit of the regulations should be applied. See note under article 15.

Article 14—Rules for Application of this Order.—(a) It is not the intention of this order to change the number of days a month for monthly paid employes. The increases a month provided herein shall apply to the same number of days a month which were worked as of Jan. 1, 1918.

(b) The pay of female employes, for the same class of work, shall be the same as that of men, and their working conditions must be healthful and fitted to their needs. The laws enacted for the government of their employment must be observed.

Article 15—Interpretation of this Order.—The rates of pay and rules here established shall be interpreted into existing agreements, and into agreements which may be reached in the future on the several railroads, and should differences arise between the management and the employes of any of the railroads to to such interpretation, intent or application of this order, prior to the creation of additional railway boards of adjustment, such questions of difference shall be referred to the director of the division of labor for decision, when properly presented, subject always to review by the Director General. Agreements or practices, except as changed by this order, remain in effect.

Interpretation:—The Canadian Railway War Board has appointed a special committee, consisting of Geo. Hodge, Assistant to General Manager, Eastern Lines, C.P.R.; J. Coleman, Superintendent Car Department, G.T.R., and A. E. Crilly, Assistant to General Manager, Canadian Government Railways, to consider further interpretations of supplement 7 to general order 27 and make recommendations for uniform practice in connection therewith. If any questions arise on any railway as to the intent of this supplement or interpretations, no action should be taken until such questions have been referred to the Canadian Railway War Board. This committee will deal with these questions as submitted and copies of the questions and rulings thereon will be forwarded to all railways connected with the Canadian Railway War Board.

In the event of employes being unable to adjust any differences with the heads of their departments in accordance with the method established by article 13, such differences may be referred to the Canadian Railway War Board for consideration and decision by this special committee.

C.P.R. Scholarships at McGill University.

Five free scholarships, covering four years' tuition in chemistry, civil, mechanical or electrical engineering at McGill University, Montreal, are offered, subject to competitive examination, to apprentices and other employes enrolled on the C.P.R.'s permanent staff and under 21 years of age, and to minor sons of employes. The competitive examination, which will be the regular entrance matriculation examination provided for in the University's annual calendar, will be held at the University, and at other centers throughout Canada, in June, 1919. The candidates making the highest average, and complying with the requirements of admission, will be awarded the scholarships and have the option of taking any of the above courses. Scholarship will be renewed from year to year, to cover a period not exceeding four years, if, at the close of each session, the holder thereof is entitled, under the rules, to full standing in the next higher year. In case a scholarship holder finds it necessary to interrupt his course for a year or more, notice must be given at the close of the session to the company and to the Dean of the Faculty of Applied Science of the University, in order that the scholarship may be open to other applicants. In order to establish prior claim to the next available scholarship, notice of the student's intended return must be given to the company and to the Dean of the Faculty of Applied Science, not later than Jan. 1, preceding the opening of the session in which such scholarship will be available. Applications for certificates entitling eligible persons to enter the competition should be addressed to C. H. Buell, Staff Registrar and Secretary, Pension Department, C.P.R., Montreal. Copies of the annual calendar, containing the conditions of admission and announcement of courses may be obtained upon application to the Registrar, McGill University, Montreal.

Canadian Pacific Railway's Honor Roll 38.

Bailey, Herbert M.	Car inspector	Hardisty	Presumed dead
Bain, Thomas	Porter	Fort William	Presumed dead
Banks, James	Car repairer	Toronto	Wounded
Bedford, Norman L.	Clerk	Winnipeg	Wounded
Breen, Joseph	Locomotive fireman	Kenora	Died of wounds
Bissett, Roderick	Wiper	Fort William	Died of wounds
Bugler, Herbert S.	Clerk	Ogden shops	Wounded
Buttimore, Thomas H.	Accountant	Banff	Wounded
Cable, Donald J.	Travelling pass. agent	Montreal	Wounded
Callard, Charles N.	Checker	Port McNicoll	Wounded
Cameron, Daniel G.	Clerk	Montreal	Wounded
Campbell, William	Section man	McTaggart	Wounded
Cassidy, Thos. J.	Porter	Campbell's Bay	Wounded
Caucutt, Edward	Yardman	Kenora	Wounded
Cleaver, Chas. H.	Section foreman	Furrer	Wounded
Comber, Ronald	Wiper	Moose Jaw	Wounded
Curtis, Bertie	Wiper	Fort William	Killed in action
Douglas, Archie	Coach carpenter	Winnipeg shops	Wounded
Drake, Leslie A.	Clerk	Montreal	Died of wounds
Duval, Leo M.	Draftsman	Kootenay Central Ry.	Wounded
Eaglestone, Edgar	Locomotive man	Winnipeg	Died of wounds
Elliott, George F.	Checker	Vancouver	Wounded
Falconer, Wm. L.	Assistant agent	Morden	Wounded
Ferrin, Wm. R.	Accountant	Calgary	Killed in action
Flynn, Edward	Wiper	Weyburn	Killed in action
Gibbon, Albert	Car checker	Fort William	Killed in action
Gough, Harry	Porter	Edmonton	Wounded
Gow, James	Bridgeman	British Columbia Dist.	Wounded
Griffiths, Jack B. M.	Shed foreman	Red Deer	Wounded
Hardy, Arthur T.	Waiter	B.C. Coast Strs.	Wounded
Hartley, Edmund H.	Section man	Manor	Wounded
Hutchison, W.	Clerk	Portage la Prairie	Died of wounds
Latimer, Hugh	Car repairer	West Toronto	Killed in action
Levinsky, Percy	Clerk	Toronto	Wounded
McCreary, Harry E.	Sleeping car conductor	Montreal	Died of wounds
McDonald, Leonard H.	Clerk	Ottawa	Believed drowned
McFadden, Ernest V.	Clerk	Brandon	Wounded
McKay, Roderick	Locomotive man	Kamloops	Wounded
McLean, Gordon D.	Barrister	Calgary	Killed in action
McLeod, Benjamin	Constable	Winnipeg	Killed in action
McTague, Robert M.	Asst. extra gang foreman	Algoma District	Died of wounds
Malpass, Wilfred A.	Porter	Vancouver	Died of wounds
Metcalfe, Alex.	Porter	Medicine Hat	Gassed
Moody, Ernest	Helper	Soo	Wounded
Moore, Stanley G.	Operator	Esquimalt	Wounded
Morrison, Alfred L.	Trainman	Kenora	Wounded
Nelson, Thos. Wm.	Trainman	Edmonton	Presumed dead
Nickleby, Theodore P.	Wiper	Roseberry	Died of wounds
Preston, Samuel	Laborer	Parkland	Killed in action
Purchase, W. H.	Clerk	Vancouver	Wounded
Reid, Ephraim J.	Conductor	Sutherland	Died of wounds
Ritchie, John	Locomotive fireman	Chapleau	Wounded
Sansom, Joseph	Blacksmith's helper	Winnipeg	Wounded
Scriver, Lorne	Shed foreman	Orillia	Wounded
Sellick, Wm.	Pipe fitter	Hochelaga	Died of wounds
Shipman, Lewis A.	Apprentice	Winnipeg shops	Believed drowned
Shrubshall, Frank	Hostler	Lambton	Killed in action
Sinnock, Samuel	Fitter's helper	Winnipeg	Killed in action
Smith, Harold	Clerk	London, Eng.	Killed in action
Stubbs, Robert	Bridgeman	Fort William	Wounded
Turiff, John G.	Assistant agent	Rapid City	Killed in action
Walker, Hugh C.	Clerk	Winnipeg	Wounded
Watthew, John	Fitter's helper	West Toronto	Killed in action
Wheeler, Hy. A.	Clerk	London, Eng.	Killed in action
Willson, George H.	Wiper	Moose Jaw	Wounded
Wilson, William	Wiper	Medicine Hat	Wounded
Wren, Wm.	Sty. fireman	Ignace	Wounded

Shown on honor lists to date:—Killed, 731; wounded, 1,575; total, 2,306.

The Transportation Features of the Coal Situation in the Prairie Provinces.

By C. E. Stone, Secretary, Western Administrative Sub-Committee, Canadian Railway War Board.

In dealing with this question, I will confine myself mainly to the situation as it exists in the western prairie provinces, as it is in these provinces that it assumes its most acute form. In the eastern and mountain sections of the Dominion, except in the larger cities, wood can be, and is, used to a large extent to relieve a shortage in the coal supply, but on the prairies there is nothing to take the place of coal. Straw is to some extent used for firing threshing engines, but it is not adapable in its present form for winter use. Therefore in winter, if the supply of coal is short, the prairie town and country dweller is faced with a desperate situation. It is chiefly to the credit of the railways that there has not in past years been much suffering due to a lack of this necessary commodity, as it can be stated generally, that with the exception of the United States coal which has been annually brought in and stored by the railways at the lake head, and the coal which the railways have stocked at various points for their own use, there has been in Western Canada, practically no stocking of coal during months favorable for its transportation, to provide for severe weather conditions. This has placed upon the railways the burden of handling a heavy coal tonnage during the worst weather, a tremendously difficult and costly operation.

In so far as Canada, east of the Great Lakes, is concerned, there are only two features which alter the situation to any extent over past years. The first is the enormous traffic with which the railways are now burdened, which of course adds to the difficulties experienced in handling coal, and second, the limitation in the allotment of U.S. coal to that territory, which will no doubt be reflected in an increased movement of wood in some sections. The situation has not altered in British Columbia, where the comparatively limited demand is met locally. It is in Alberta, Saskatchewan and Manitoba, and particularly in the two latter, that the situation takes on its difficult aspects. To a very large extent, Manitoba and eastern parts of Saskatchewan have in past years depended for their fuel on the supplies of anthracite brought in by lake and rail from the U.S. The transportation of the winter's coal supply from western mines places upon the railways a tremendously increased burden.

It is almost an impossibility to deal with this question statistically with any degree of accuracy. There are no statistical bases of comparison between the situation in Western Canada in past years and the situation as it exists today. In considering this matter from a transportation standpoint, I will take Winnipeg, the point which is most greatly affected by the change, as an illustration. During 1917, Winnipeg consumed a total of approximately 457,000 tons of commercial coal, of which about 215,000 tons were anthracite, 222,000 tons bituminous, and 20,000 tons lignite. The bituminous supply has not been greatly disturbed, but the Fuel Controller has stated that not more than 50% of last year's anthracite supply will be available this year, which means that, allowing for the difference in efficiency between anthracite and lignite, Winnipeg will have to receive from the western mines about 200,000 tons. As the railways cannot be expected to maintain the movement at full capacity, after the commencement of the heavy grain movement, this means that from May 15 to Oct. 1, a period of 138 days, coal should have been coming into Winnipeg from the west at the rate of 50 cars a day. As a matter of fact, it has not been coming in anything like that quantity. During May, the average number of cars to arrive in Winnipeg daily was 13; in June, 29 cars, and in July, 27 cars. During the week ended July 14, there were shipped to Winnipeg from all mines in Western Canada, 217 cars of coal, an average of 31 a day. During the week ended July 21, there were shipped a total of 252 cars, an average of 36 a day. During the 10-day period ended July 31, there were shipped a total of 333 cars, an average of 33 a day.

While these figures are typical of a section of Manitoba, they are not so of Saskatchewan, where stocking of western coal has been fairly heavy, and into which province, shipments for the three weeks prior to July 31, averaged over 125 cars a day.

From May 15 up to the end of July, all the mines in Western Canada shipped to all points, of all classes of coal, a total of 1,238,000 tons, as compared with a total of 592,000 tons shipped in the same period last year, but the figures mean very little when it is remembered that last year, from early in May until about July 1, almost all the coal mines in Alberta had strikes on their hands. In addition, a very large proportion of the increase is made up of steam coal stocked for railway purposes.

Winnipeg's anthracite supply, brought in during the lake navigation period to the lake head, was, in railway movement, distributed over 8 months. By far the greater portion of it, however, was handled during the months in which the grain was moved to the lakes, giving the railways a westbound coal movement to Winnipeg, and to some extent beyond, corresponding with the eastern grain movement, and thus limiting in some measure, that bane of the transportation officer—empty car haulage. Now look at the situation created by the substitution of western coal for anthracite. This must be brought from mines located an average of 900 miles from Winnipeg. It must largely come down in a period of approximately four months. It must be handled in the same direction with the preponderance of traffic during the greater portion of the year, meaning an empty car hauled for nearly every car of coal brought in. Where to bring in a car of coal from Port Arthur or Fort William only meant a loaded car haul of 420 miles, to bring one in from the western mines means an empty car haul from Winnipeg west of 900 miles, and as during the grain shipping period, which extends over a considerable portion of the year, every car sent west from Winnipeg for coal loading necessitates an equivalent empty movement from the lake head to Winnipeg, the total empty haulage for each car of western coal brought to Winnipeg is 1,320 miles. Add to this the return loaded haul of 900 miles, and you have a mileage of 2,200 a car, or over five times the distance is covered to bring a car of coal to Winnipeg from the western mines than was covered to bring a car from the lake head. The car efficiency is actually reduced by more than five times, because the western railways, between Winnipeg and the western mine territory, all operate through a section of prairie country, where the scarcity and poor quality of the water reduces locomotive efficiency, and makes railway operation at certain seasons very difficult and costly.

The greatest movement must be crowded into 4 or 5 months, because during the latter part of September and the months of October and November, when the bulk of the crop is moving out, the railways cannot undertake to move coal from the west in any quantity, and at the same time discharge their essential duty as grain carriers. The very fact that the bulk of the western coal must be moved during the summer, however, would, if taken advantage of, to a slight extent offset the disadvantages referred to, as that is the period when the railways in the west have usually had a surplus of men, power and cars, and weather conditions are most favorable to an uninterrupted movement.

Under the conditions created by the necessity for bringing the coal supply from the west, a feature upon which too much stress cannot be laid, is that of capacity loading of cars. Practically all of the railways in Canada, as a result of exhaustive tests, have increased the loading capacity of their cars beyond that formerly allowed, as high in some cases, as 20%, basing it upon the carrying strength of the axles. Loading cars with all they will carry, in the direction of the preponderance of traffic, increases transportation efficiency enormously, and the Canadian Railway War Board has been urging upon all shippers the importance of giving attention to this feature. It is one way in which the railways can be assisted by the shipping public to give better service to that public.

The railways were early in the field to assist in improving this season's fuel situation. Through the Canadian Railway War Board they have entered into all movements looking to a solution of the problem. On their behalf, Grant Hall, Chairman of the western administrative sub-committee of the board, at a meeting which was held in Calgary on Feb. 11, gave assurance that the railways would be prepared to handle all the coal offered up to the commencement of the grain movement, and W. P. Hinton, representing the administrative sub-committee, repeated this assurance at a meeting held in Ottawa on April 18, and they have not failed to do this. Steps were taken by the railways to begin at once to stock all the railway steam coal which the mines could turn out, in order to free railway facilities for handling domestic coal later on. Empty cars, which, accumulating in the east as a result of the winter all-rail grain movement, are usually moved west gradually throughout the summer, as traffic conditions permit, were in early spring handled west in train loads, and an uninterrupted full supply of cars has been maintained at all mines throughout the spring and summer, with a surplus always available to meet any needs which might arise.

It is not the intention to criticize the efforts of anyone else, but the movement of coal from the west has not, up to the present, been what the railways had

hoped for, and were led to expect. There are several reasons for this, chief among which, I imagine, are, first the difficulties experienced by the mines in securing labor, and in getting full time work from that available, and second the fact that certain of the western coals will not stand outdoor storing without deterioration, making dealers hesitate to stock it in any quantity. Consumers, notwithstanding repeated warnings, have not laid in as much as was hoped, due, in some measure, no doubt, to the difficulty in financing at once a whole or considerable portion of a season's supply.

More than any other large employers of labor, the railways have found it difficult to secure capable employes to take the place of those who either voluntarily enlisted or were called to the colors. Those classes of employes whose duties are connected with the movement of trains must be of high standard, and some of them must be trained for years before they can be entrusted with the lives of passengers and fellow employes. Troop movements and heavy traffic of an emergent nature due to the war have made their demands on the railways. They have met these and will continue to meet them. If a coal shortage should develop this coming winter, it will not be because the railways have failed to do everything in their power to prevent it.

The foregoing paper was read before the Engineering Institute of Canada's Saskatchewan branch in Saskatoon recently.

Marking and Addressing of Freight for Transportation Between Points in Canada.

The Canadian Freight Association issued the following circular Oct. 1:—

The attention of all concerned is directed to the following rules regarding marking and addressing of freight, framed for the purpose of minimizing, so far as possible, loss or miscarriage of the property.

1. Freight, when delivered to carriers to be transported at less than carloads, or any quantity ratings, must be marked in accordance with the following requirements and specifications, except as provided in rules 7 and 8, or in the Board of Railway Commissioners for Canada Regulations, for the transportation of explosives and other dangerous articles by freight.

2. (a) Each package, bundle, or loose piece of freight, except as provided for in rules 7, 8 and 9, must be plainly, legibly and durably marked by brush, stencil, marking crayon (not chalk), rubber type, metal type, pasted label (see note 1), tag (see note 2), or other method which provides marks equally plain, legible and durable, showing the name (not initials) of only one consignee, and (except as provided in rule 2 (b) of only one town or city, and province or state to which destined.

When consigned to a place of which there are two or more of the same name in the same province or state, the name of the county must also be shown.

When name and address of shipper is marked on freight, it must be prefixed by the word "From."

(b) When consigned to a place not located on the line of a carrier, each package, bundle, or loose piece required to be marked by this rule, must be marked with the name of the station at which the consignee will accept delivery, in addition to the name of final destination, if routed in connection with a water line via which there are no joint rates in effect, the name of the station at which delivery is to be made to such water line, must also be shown.

(c) When consigned "To order" each package must be so marked, and further marked with an identifying symbol or number which must be shown on shipping order and bill of lading.

Note 1. Labels must be securely attached with glue or equally good adhesive.

Note 2. Tags should be used only when the nature of the freight will not readily permit the use of labels, or other suitable marking. Tags must be made of metal, leather, cloth or rope stock or sulphite fibre tag board, sufficiently strong and durable to withstand the wear and tear incident to transportation; and

When such cloth or board tag is tied to any bag, bale, bundle or piece of freight, it must be securely attached through a reinforced eyelet.

Tags used to mark wooden pieces or wooden containers must be fastened at all corners and centre, with large headed tacks or tag fasteners; or

Tags may be securely tied to wooden pieces when the freight would be injured by the use or tacks or tag fasteners.

Tags tied to bags, bales, bundles or pieces must be securely attached by strong cord or wire, except that when tied to bundles or pieces of metal, they must be securely attached by strong wire or strong tarred cord.

3. The marks on bundles, packages or pieces must be compared with the shipping order or bill of lading and corrections, if necessary, made by the shipper or his representative before bill of lading is signed by agent of the carrier.

4. Marks on bundles, packages, or pieces must correspond with those shown on shipping order or bill of lading. For example, on a shipment to Winnipeg, the package must be marked "Winnipeg," and not some other destination for which the goods may be ultimately intended. If packages are intended for reshipment, a special designating mark may be used for the guidance of those attending to the reforwarding, but only the destination given in the shipping order or bill of lading must be shown on the goods.

5. Old consignment marks must be removed or effaced by the shipper.

6. Freight in excess of full cars must be marked as required for less than carload freight.

7. Shipments of bar iron and steel must be marked as follows:—

All iron and steel bars five-eighths inch and under to be bundled; a tag to be placed on each bundle.

All iron and steel bars over five-eighths inch, in addition to each shipment being painted on end a distinctive color, to be tagged as follows:—

Shipment of 50 bars and under, 1 tag for every 5 bars.

Shipment of over 50 and under 100, 1 tag for every 10 bars.

Shipment of 100 or over, 1 tag for every 20 bars.

These tags to be fully addressed to consignee and destination and endorsed "Part of lot of 5, 10, 50, or 100, as the case may be, marked Red, Green, Yellow, etc.," in accordance with the colors painted thereon.

Shipments of bars, in 5 ft. lengths or under, exceeding a value of 10c a pound, to be either boxed or crated.

8. (a) A shipment that fully occupies the visible capacity of car or that weighs 24,000 lb. or more, when shipped from one station, in or on one car, in one day, by one shipper, for delivery to one consignee, at one destination, need not be marked, except when for rail and water transportation, as provided in rule 9.

(b) L.c.l. shipments of cheese may be accepted with the factory brand plainly stencilled on the container, instead of name and address of consignee.

9. Each package, bundle or piece of freight, either in carloads or less than carloads, for transportation via rail and water, must be fully marked as required for less than carload freight, except for shipments of flour and other grain products, sugar, cement, and salt bearing standard brands or trade-marks.

10. Freight traffic for points in United States must be marked as required by the Official Classification and supplements thereto.

The proper marking and addressing of freight is as much in the interest of the shipper as of the carrier, as neglect in the addressing of packages may result in the loss or miscarriage of the goods.

If the above requirements and specifications are not complied with, freight will not be accepted for transportation.

Coal Shipments From Sydney, N.S.

The Railways Department at Ottawa has issued the following statement:—"The Canadian Government Railways, between May and Sept. 12, carried 196,189 tons of coal from Sydney, N.S.

"From May 1 to Aug. 23, the Dominion Coal Co. shipped from Sydney 3,697 cars, 129,734 tons of coal, of which 1,440 cars, 55,934 tons, were on railways' account, and the balance, 2,257 cars, 73,800 tons, for private consumers. From Aug. 23 to Sept. 12, 564 cars, 21,382 tons, were shipped on railways' account, and 393 cars, 14,934 tons, for private consumption.

"Since Aug. 23, the output has increased from an average of 36 cars to an average of 63 cars per working day, due to the coal company having provided additional facilities for loading box cars.

"Shipments of both private and railway coal are consigned almost exclusively to places in Nova Scotia and New Brunswick, less than 2% of the total being consigned to other provinces.

"The car supply was adequate during the period covered by this report, and there are a large number of empties available in Nova Scotia to take care of shipments for some time to come.

"The movement of coal from Sydney is well in hand, although hampered to some extent by passing tracks in Cape Breton being congested with Newfoundland freight. Additional power has been transferred to that section of the railway to enhance the movement. Mikado and Santa Fe locomotives were transferred early in October, which will materially reduce the number of trains to be dispatched, thereby increasing the capacity of the railway in Cape Breton for prompt movement.

"In addition to rail shipments, 20,692 tons were forwarded to Halifax and 9,447 tons to St. John from Sydney in railway steamships and barges from May 1. This coal was consigned to the railway."

Poles Bought in Canada in 1916 and 1917.

The statistics herein are based on reports received by the Interior Department's Forestry Branch from 294 buyers of poles in Canada in 1917. The purchasers consisted of 167 telephone companies, 89 electric light and power companies, 19 electric railways, 16 steam railways, and 4 telegraph companies. The statistics are divided into two main groups; those concerning steam railway, telegraph, and telephone companies, and those concerning electric railway, power and light companies.

There were 11,042 more poles purchased in Canada in 1917 than in 1916, an increase of 6.1%. Poles were cut from 13 different kinds of wood, and of these kinds eastern cedar composed 74.5% and western cedar 18.7%, a total of 93.2% of cedar. The species next in order was spruce, which made up 3.7% of the total. The number of poles cut from eastern and western cedar, spruce, jack pine, chestnut, ash, and oak increased, while all other species show decreases, except maple and poplar, which were not reported in 1916 and which reappear in the list in 1917. Douglas fir, which formed 1.4% of the poles in 1915, is not reported in 1916 nor 1917. The steam railway, telephone, and telegraph companies purchased 57.9% of the poles, compared with 74.6% in 1916 and 61% in 1915.

The average purchase price of all poles has varied as follows in recent years: 1913, $2.22; 1914, $2.33; 1915, $2.52; 1916, $2.34; 1917, $2.65.

The prices in the tables are based on the cost at the point of purchase. Arbitrary factors, as farmers cutting poles for local lines, low prices caused by lack of transportation facilities, high prices caused by long hauls and demand for particular lengths, make specific prices irregular. Only where poles are used in large numbers can the values be taken as representative.

Poles bought in Canada 1912-1917.

Table 1.—Poles bought, 1916 and 1917, by kinds of wood and chief users. Total purchased by all users.

Kind of Wood.	1916. Number.	Value.	Av. value.	Per cent.	1917. Number.	Value.	Av. value.	Per cent.
Total.	**182,317**	**$427,154**	**$2.34**	**100.0**	**193,359**	**$511,776**	**$2.65**	**100.0**
Eastern cedar	143,018	300,438	2.10	78.4	144,036	310,399	2.16	74.6
Western cedar	23,834	105,173	4.41	13.1	36,222	182,879	5.05	15.7
Spruce	3,167	5,082	1.60	1.7	7,219	11,286	1.56	3.7
Tamarack	8,807	9,179	1.04	4.8	4,310	3,154	0.73	2.2
Jack pine	705	971	1.38	0.4	752	2,614	3.48	0.4
Chestnut	173	126	0.73	0.1	359	288	0.80	0.2
Ash	100	60	0.60	0.1	178	134	0.75	0.1
Maple	.....	.....	.....	.....	90	263	2.92	*
Oak	24	144	6.00	*	75	120	1.60	*
White pine	100	1,000	10.00	0.1	60	591	9.85	*
Balsam fir	2,055	3,580	1.74	1.1	46	32	0.70	*
Hemlock	334	1,401	4.19	0.2	6	12	2.00	*
Poplar	.....	.....	.....	.....	6	4	0.67	*
Electric Railway, Power and Light Companies.								
Total.	**46,252**	**$205,602**	**$4.45**	**100.0**	**81,397**	**$283,347**	**$3.48**	**100.0**
Eastern cedar	34,905	127,005	3.64	75.5	65,983	161,888	2.45	81.1
Western cedar	11,158	78,297	7.02	24.1	14,777	120,773	8.17	18.2
Tamarack	179	282	1.58	0.4	554	574	1.04	0.7
Spruce	10	18	1.80	*	42	84	2.00	*
Balsam fir	.....	.....	.....	.....	29	12	0.41	*
Hemlock	.....	.....	.....	.....	6	12	2.00	*
Poplar	.....	.....	.....	.....	6	4	0.67	*
Steam Railways, Telephone and Telegraph Companies.								
Total.	**136,065**	**$221,552**	**$1.63**	**100.0**	**111,962**	**$228,429**	**$2.04**	**100.0**
Eastern cedar	108,113	173,433	1.60	79.5	78,053	148,511	1.90	69.7
Western cedar	12,676	26,876	2.12	9.3	21,445	62,106	2.90	19.2
Spruce	3,157	5,064	1.60	2.3	7,177	11,202	1.56	6.4
Tamarack	8,628	8,897	1.03	6.3	3,756	2,580	0.69	3.3
Jack pine	705	971	1.38	0.5	752	2,614	3.48	0.7
Chestnut	173	126	0.73	0.1	359	288	0.80	0.3
Ash	100	60	0.60	0.1	178	134	0.75	0.2
Maple	.....	.....	.....	.....	90	263	2.92	0.1
Oak	24	144	6.00	*	75	120	1.60	0.1
White pine	100	1,000	10.00	0.1	60	591	9.85	*
Balsam fir	2,055	3,580	1.74	1.5	17	20	1.18	*
Hemlock	334	1,401	4.19	0.2	.....	.....	.....	.....

*Less than one-tenth of 1 per cent.

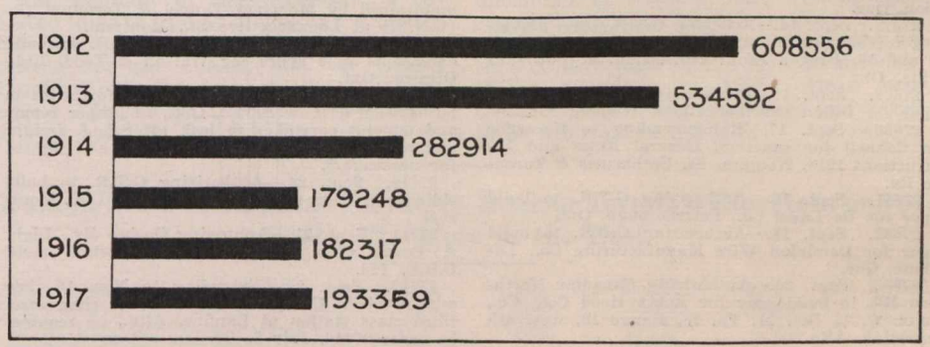


Table 2.—Poles bought, 1917, by length—classes and kinds of wood.

Kind of work.	Number.	Value.	Av. value.	Per. cent.	Number.	Value.	Av. value.	Per cent.
	Total, all length, classes.				20 to 25 ft. (64.7 per cent.)			
Total.	**193,359**	**$511,776**	**$2.65**	**100.0**	**125,166**	**$160,255**	**$1.28**	**100.0**
Eastern cedar	144,036	310,399	2.16	74.5	100,877	125,998	1.25	80.6
Western cedar	36,222	182,879	5.05	18.7	13,134	26,347	2.01	10.5
Spruce	7,219	11,286	1.56	3.7	6,245	4,378	0.70	5.0
Tamarack	4,310	3,154	0.73	2.2	4,081	2,683	0.66	3.3
Jack pine	752	2,614	3.48	0.4	169	280	1.66	0.1
Chestnut	359	288	0.80	0.2	359	288	0.80	0.3
Ash	178	134	0.75	0.1	178	134	0.75	0.1
Maple	90	263	2.92	*	.....	.....	.....	.....
Oak	75	120	1.60	*	75	120	1.60	0.1
White pine	60	591	9.85	*	.....	.....	.....	.....
Balsam fir	46	32	0.70	*	42	23	0.55	*
Hemlock	6	12	2.00	*	.....	.....	.....	.....
Poplar	6	4	0.67	*	6	4	0.67	*
	26 to 30 ft. (17.0 per cent).				31 to 35 ft. (9.6 per cent).			
Total.	**32,766**	**$104,615**	**$3.19**	**100.0**	**18,560**	**$103,498**	**$5.58**	**100.0**
Eastern cedar	24,074	69,851	2.90	73.5	11,270	55,386	4.91	60.7
Western cedar	8,113	33,115	4.08	24.8	6,666	45,465	6.82	35.9
Spruce	213	717	3.37	0.6	328	1,598	4.87	1.8
Tamarack	204	441	2.16	0.6	.....	.....	.....	.....
Jack pine	152	470	3.09	0.5	209	796	3.81	1.1
Hemlock	6	12	2.00	*	.....	.....	.....	.....
Balsam fir	4	9	2.25	*	.....	.....	.....	.....
Maple	.....	.....	.....	.....	87	253	2.91	0.5
	36 to 40 ft. (5.5 per cent).				41 ft. and over (3.2 per cent).			
Total.	**10,626**	**$73,240**	**$6.89**	**100.0**	**6,241**	**$70,168**	**$11.24**	**100.0**
Eastern cedar	5,534	35,427	6.40	52.1	2,281	23,737	10.41	36.6
Western cedar	4,843	36,093	7.45	45.6	3,466	41,859	12.08	55.5
Spruce	139	1,274	9.17	1.3	294	3,319	11.29	4.7
Jack pine	73	351	4.81	0.7	149	717	4.81	2.4
Tamarack	25	30	1.20	0.2	.....	.....	.....	.....
White pine	9	55	6.11	0.1	51	536	10.51	0.8
Maple	3	10	3.33	*	.....	.....	.....	.....

*Less than one-tenth of 1 per cent.

Canadian Economic Commission for Russia.—To act in conjunction with other allied countries, Canada has appointed an economic commission to assist in the economic restoration of Siberia, and to assist the people to secure the things required for the equipment and carrying on of necessary industrial projects. The persons appointed are:—C. F. Just, Chief Canadian Trade Commissioner in Russia; W. D. Wilgress, Canadian Trade Commissioner at Vladivostock; Lieut.-Col. J. S. Dennis, C.M.G., Red Cross Commissioner and Liaison Officer of the Canadian Siberian Expedition, and Assistant to the President, C.P.R.; and Ross Owen, C.P.R., Transportation Officer in Russia. The commission's duties cover the whole industrial, social and economic situation, including the necessary transportation facilities.

Pacific Great Eastern Ry. Passenger Service.—The West Vancouver, B.C., municipal council on Sept. 28 approved of this company's winter train schedule, as submitted by the management, for the section between North Vancouver and Whytecliffe, which was put in operation Oct. 3, and is being worked in connection with the West Vancouver ferry service. Nine trains are run daily from Monday to Friday, and 11 trains on Saturdays. The schedule includes trains at suitable times for shipyard workers and school children. The 30 days time limit on settlers' tickets has been abolished.

Orders by Board of Railway Commissioners for Canada.

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

27667. Sept. 14.—Relieving Canadian Northern Ry. from providing further protection at King St., Pefferlaw, Ont.

27668. Sept. 16.—Authorizing Kettle Valley Ry. to build bridge across Similkameen River at Princeton, B.C.

27669. Sept. 16.—Approving Canadian Northern Ry. revised location in n. e. ¼ Sec. 19, Tp. 21, Range 28, west 4th meridian, Alta., and rescinding order 27612, Sept. 4.

27670. Sept. 12.—Ordering Canadian Northern Ry. to build bridge over Serviceberry River, Alta., on right of way north of railway bridge.

27671. Sept. 16.—Approving Canadian Northern Ry. revised location in s. w. ¼ Sec. 26 and s. e. ¼ Sec. 26, Tp. 59, Range 10, west 5th meridian, Alta., and rescinding order 27620, Sept. 4.

27672. Sept. 17.—Authorizing McKim Tp., Ont., to make highway over C.P.R. at mileage 83.13, on Lot 11, Con. 5, McKim Tp.

27673. Sept. 16.—Authorizing C.P.R. to build spur for Alberta Stockyards Co., Calgary, Alta.

27674. Sept. 17.—Authorizing Ontario & Minnesota Power Co., until further order, to build and operate power line along dyke on water front at Fort Frances, Ont., subject to cancellation of such permission upon notice from Ontario Lands, Forests and Mines Department, use of such power line limited to company's own business, and prohibiting use for ordinary commercial purposes.

27675. Sept. 11.—Authorizing International Bridge & Terminal Co. to erect loading bunkers on Shevlin-Clarke Co.'s property at Fort Frances, Ont., for loading mill refuse to cars.

27676. Sept. 20.—Authorizing Canadian Northern Ry. to build spur for Crescent Collieries at mileage 15.36, Bienfait Subdivision, Alta.

27677. Sept. 18.—Authorizing C.P.R. to rebuild bridge 44.53 over North River, Lachute Subdivision, Que.

27678. Sept. 14.—Relieving G.T.R. from providing further protection at public road between Lots 9 and 10, Broken Front Concession, at Bowmanville, Ont.

27679. Sept. 18.—Authorizing G.T.R. to build spur for Dillon Crucible Alloys, Welland, Ont.

27680. Sept. 17.—Recommending to Governor in Council for sanction, General Rules and Instructions 1918, Niagara, St. Catharines & Toronto Ry.

27681. Sept. 19.—Authorizing G.T.R. to build spur for De Laval Co., Peterborough, Ont.

27682. Sept. 18.—Authorizing C.P.R. to build spur for Dominion Wire Manufacturing Co., Lachute, Que.

27683. Sept. 20.—Authorizing Canadian Northern Ry. to build spur for Robin Hood Coal Co., in n. w. ¼ Sec. 21, Tp. 28, Range 19, west 4th meridian, Alta.

27684. Sept. 12.—Approving location of Grand Trunk Pacific Branch Lines Co.'s station, N.T.R. design A, at Lydden, Sask.

27685. Sept. 18.—Authorizing G.T.R. to build extension to siding for McColl Bros. & Co., Toronto.

27686. Sept. 18.—Approving agreement, Sept. 4, between Bell Telephone Co. and Sunderland Telephone Co., Ontario and York Counties, Ont., and rescinding order 23351, Feb. 23, 1915.

27687. Sept. 20.—Approving location of Grand Trunk Pacific Branch Lines Co.'s station at Central Butte, Sask.

27688. Sept. 16.—Ordering C.P.R. to carry out terms of order 26841, Dec. 14, 1917, by stopping train 821 at Oakville, Ont., when there are passengers for that point from Toronto.

27689. Sept. 16.—Approving agreement, Aug. 30, between Bell Telephone Co. and North Horton Telephone Association, Ltd., Renfrew County, Ont.

27690. Sept. 13.—Ordering Canadian Northern Ry. to cut down hedge and trim trees 12 ft. from ground at crossing of Sidney St., Trenton, Ont.

27691. Sept. 16.—Ordering G.T.R. southbound and C.P.R. northbound trains to connect at Inglewood Jct.; when either is late and there are passengers to connect with other train, last named to be held at least 10 minutes to enable connection to be made.

27692. Sept. 20.—Authorizing Saskatchewan Highways Department to make highway over C.P.R. station grounds and tracks at Lajord.

27693. Sept. 16.—Dismissiong application of Board of Trade, Edmonton, Alta., for order directing Canadian Northern Ry. to appoint station agent at Legal, Alta., upon undertaking of C.N.R. to carry out order 26362, July 24, 1917.

27694. Sept. 16.—Authorizing C.P.R. to remove regular agent at Senate, Sask., caretaker to be appointed to see station is kept clean and heated for passengers on arrival and departure of trains, and care for l.c.l. freight and express matter.

27695. Sept. 16.—Authorizing C.P.R. to use Canadian Northern Ry. spur into Davidson & Smith elevator, Fort William, Ont., switchmen to be appointed by C.N.R. to operate switch day and night; spur to be maintained by C.N.R.; wages of switchmen and maintenance of spur to be apportioned on a wheelage basis.

27696. Sept. 16.—Ordering Canadian Northern Ry. to erect third class station at Durban, Man., by Dec. 1.

27697. Sept. 21.—Amending order 27324, June 19, re London & Port Stanley Ry. spur on Bathurst St., London, Ont.

27698. Sept. 23.—Approving clearances at C.P.R. heated building for oil cars at Weston, Winnipeg.

27699. Sept. 23.—Authorizing C.P.R. to divert road allowance on northern boundary of n.e. ¼ Sec. 10, Tp. 3, Range 4, west 2nd meridian, and to close within limits of right of way diverted portion of road allowance at mileage 131.2, Estevan Subdivision, Sask.

27700. Sept. 23.—Approving Canadian Northern Ry. revised plan of bridge across Trent River, at Trenton, Ont., and rescinding order 12356, Nov. 23, 1910.

27701. Sept. 13.—Amending order 15377, Nov. 7, 1911, re provision of gates by G.T.R. at highway west of Cornwall station, Ont.

27702. Sept. 16.—Approving North Mountain Ry. standard passenger tariff C.R.C. 1.

27703. Sept. 23.—Suspending order 27074, Mar. 18, re C.P.R. spur for E. W. Gillette Co., Toronto.

27704. Sept. 16.—Ordering Canadian Northern Ontario Ry. to install interlocking plant at junction with C.P.R. near Harrowsmith station, Ont., by Oct. 1, 1919; pending installation all trains to stop before running through crossovers there.

27705. Sept. 24.—Extending to Nov. 1, time within which Kettle Valley Ry. shall enlarge freight shed end of station building at Rock Creek, B.C.

27706. Sept. 24.—Ordering C.P.R. within 60 days to install improved automatic bell at King St. West, Ingersoll, Ont.; 20% of cost to be paid out of railway grade crossing fund.

27707. Sept. 24.—Approving location and details of temporary station and facilities to be maintained by Montreal Tunnel & Terminal Co. (C.N.R.) at Lagauchetiere St., Montreal.

27708. Sept. 25.—Authorizing G.T.R. to build extensions to 2 spurs for Watson & Todd, Ltd., Ottawa, Ont.

27709. Sept. 16.—Ordering G.T.R. forthwith to put station at Low Banks, Ont., in proper repair and appoint caretaker to look after l.c.l. freight and express and keep station heated and lighted for passengers.

27710. Sept. 24.—Authorizing G.T.R. to build siding and spurs therefrom, for Crane, Ltd., Montreal.

27711. Sept. 21.—Approving Quebec Ry., Light & Power Co.'s standard mileage freight tariff C.R.C. 113.

27712. Sept. 25.—Extending to Nov. 15 time within which Canadian Northern Ry. shall erect third class station at Lanfine, Alta., as required by order 27416, July 8.

27713. Sept. 24.—Ordering C.P.R. to install bell at highway crossing north of Crowell's siding, mileage 39.4, Newport Subdivision, Que., 20% of cost to be paid out of railway grade crossing fund.

27714. Sept. 27.—Authorizing G.T.R. and any other railways that have made similar publications to amend tariffs providing free storage for 10 days on and after Oct. 1, providing that should Montreal Harbor Commissioners extend their free storage period beyond 10 days, the railway tariffs shall be simultaneously amended to provide for at least the same free storage period.

27715. Sept. 27.—Dismissing complaint of Bole Grain Co., Fort William, Ont., that C.P.R. refuses to issue bills of lading for grain weighed by government weighing department, except with the provision, "Shippers load and count."

27716. Sept. 27.—Ordering C.P.R. to install automatic bell at crossing of Main St., Morse, Sask.

27717. Sept. 27.—Ordering C.P.R. to extend track at Readlyn, Sask., to serve elevator there; work to be completed Nov. 1.

27718. Sept. 28.—Suspending, on complaint of Dominion Travellers Association, and other commercial travellers associations, Quebec, Montreal & Southern Ry. and Napierville Jct. Ry. tariffs which cancelled reduced fares and special baggage for commercial travellers pending before the Board.

27719. Sept. 27.—Ordering G.T.R. to build 2 stock pens at Goldstone, Ont., and sink well for supplying water for the stock.

27720. Sept. 26.—Authorizing C.P.R. to build diversion of road allowance on north boundary of n. e. ¼ Sec. 33, Tp. 11, Range 2, west 2nd meridian.

27721. Sept. 28.—Authorizing Dominion Atlantic Ry. to open for traffic portion of its North Mountain Branch from Centreville to Weston, 15.03 miles.

27722. Sept. 27.—Authorizing C.P.R. to build across and divert east and west road allowance between n.e. ¼ Sec. 9, and s. e. ¼ Sec. 16, Tp. 61, Range 24, near Tawatinaw, Alta.

27723. Sept. 27.—Approving location of Canadian Northern Ry. Medicine Hat line through Tps. 27 and 22, Ranges 12 to 11, in Alberta, from mileage 22.22 to 58.94.

27724. Sept. 30.—Approving proposed C.P.R. mixed train service between Coronation and Kerrobert, Alta.

27725 to 27727. Sept. 30.—Ordering C.P.R. to restore until Dec. 31 semi-weekly mixed train services on its Irricana and Sterling-Manyberries Subdivisions, and between Suffield and Lomond, Alta.

27728. Sept. 30.—Ordering C.P.R. to establish a tri-weekly mixed train service carrying mail and express between Lethbridge and Cardston and between Lethbridge and Coutts, Alta.

27729. Sept. 30.—Authorizing C.P.R. to make crossing in Sec. 22, Tp. 36, Range 10, west 3rd meridian, and necessary road diversion to reach it and to close present crossing in Sec. 26, Sask.

27730. Sept. 30.—Authorizing C.P.R. to build extension to spur for Eagle Lumber Co., St. Jerome Parish, Que.

27731. Sept. 30.—Authorizing Quebec, Montreal & Southern Ry. to build spur for Leclaire Shipbuilding Co., St. Joseph, Que.

27732, 27733. Sept. 30.—Approving Bell Telephone Co.'s agreement with Vespra Tp., Ont., Sept. 16; and Tyendinaga Tp., Ont., Sept. 20.

27734. Oct. 1.—Amending order 27287, June 6, which restricted speed of Grand Trunk Pacific Ry. trains over certain bridges between Wainwright and Irma, Alta.

27735. Oct. 1.—Authorizing C.P.R. to operate over spurs serving Canadian General Electric Co., Peterborough, Ont.

27736. Oct. 1.—Authorizing Mount Royal Tunnel & Terminal Co. to cross Dorchester St., Montreal, carrying highway over its tracks by a viaduct.

27737. Sept. 27.—Authorizing Canadian Northern Western Ry. to open for traffic its line from mileage 32.1 Peace River Extension to mileage 33.8 Alta.

27738. Oct. 2.—Approving clearance of C.P.R. standard commercial coal sheds.

27739. Oct. 2.—Authorizing C.P.R. to build spur for Dryden Timber & Power Co., near Eagle River, Ont.

27740. Oct. 2.—Authorizing Canadian Northern Ontario Ry. to build branch line from its yard to Cartierville Village, Que.

27741. Oct. 1.—Ordering Quebec, Montreal & Southern Ry. to rearrange its train service between Iberville and Noyan Junction, Que.

27742. Oct. 7.—Authorizing C.P.R. to build spur for Gordon, Ironsides and Fares, Packers, Ltd., Moose Jaw, Sask.

27743. Oct. 4.—Authorizing Mount Royal Tunnel & Terminal Co. (C.N.R.) to open for traffic its line from junction with the C.N.O.R. near St. Laurent to terminal at Lagauchetiere St., Montreal.

27744. Oct. 3.—Authorizing Mayfield rural municipality no. 406, Sask., to make two highway crossings over Canadian Northern Ry. in Sec. 31, Tp. 42, Range 14, west 3rd meridian.

27745. Oct. 2.—Authorizing Templeton East, Que., to make highway crossing over C.P.R. near line along lots 2 and 3, Range 2, Templeton Tp., Que.

27746. Oct. 3.—Approving G.T.R. clearances of G.T.R. at certain spurs for Canadian General Electric Co. at Peterborough, Ont.

27747. Oct. 7.—Authorizing Hamilton Radial Electric Ry. to build branch across Wilson St., Hamilton, Ont.

27748. Oct. 7.—Ordering Michigan Central Rd. not to exceed 10 miles an hour over crossing of Bridge St. and Victoria Ave., Niagara Falls, Ont.

27749. Oct. 7.—Approving Canadian Northern Ry. time table effective Oct. 20, providing local train eastbound due at Fallowfield 10.05 a.m. and westbound 5.49 p.m.; train due to leave Ottawa at 12.45 p.m., daily except Sunday to stop at Fallowfield on flag for passengers west of Forgar.

27750. Sept. 30.—Relieving C.P.R. from providing further protection at the crossing of Admiral's Road, near Victoria, B.C.

27751. Sept. 28.—Authorizing C.P.R. pending further order to remove regular agent at Midnapore, Alta., waiting room to be kept clean and heated and lighted for passengers.

27752. Oct. 8.—Extending to Nov. 20 time within which Canadian Northern Ry. shall enlarge station room at Lamont, Alta.

27753. Sept. 28.—Ordering Vancouver, Victoria & Eastern Ry. & Navigation Co. (G.N.R.) to build stone or timber wall 3 ft. high to prevent stones and gravel rolling down the slopes at crossing of Ross Road, Aldergrove, B.C.

27754. Oct. 7.—Authorizing Grand Trunk Pacific Saskatchewan Ry. and C.P.R. to operate over connection in s. e. ¼ Sec. 26, Tp. 36, Range 6, and in s. w. ¼ Sec. 16, Tp. 36, Range 4, west 3rd meridian.

27755. Oct. 9.—Relieving C.P.R. from providing further protection at 8th Avenue East, Moose Jaw, Sask.

27756. Oct. 9.—Dismissing complaints of Martin and Robertson, Ltd., and Imperial Rice Milling Co., Vancouver, B.C., against increased carload rates on rice from Vancouver to Eastern Canada, which went into effect August, 1917.

27757. Oct. 8.—Extending to Nov. 15, time 23, 1915, re removal by C.P.R. of its agent at Jeanette station, Ont.

27758. Oct. 9.—Authorizing Canadian Northern Ry. to build spur to its freight shed at Fort William, Ont., crossing Vickers and Cameron Sts.

27759. Oct. 9.—Authorizing Temiscouata Ry. to remove regular station agent at St. Hilaire, N.B., caretaker to be appointed to see station kept clean, and heated and lighted for passengers.

27760. Oct. 9.—Amending order 23341, Feb. within which A. B. Pottinger, District Registrar, Supreme Court of British Columbia, may make enquiry into and report upon cost of building Hastings St. viaduct over Vancouver, Victoria & Eastern Ry. (G.N.R.), Vancouver, B.C.

27761. Oct. 9.—Authorizing Canadian Northern Ry. to remove regular station agent at Brooking, Sask., caretaker to be appointed to see that station is kept clean and heated and lighted for passengers.

27762. Oct. 7.—Amending order 27629, Sept. 4, re replacement of wooden trestles at C.P.R. bridges 36.4 and 36.97 over the Frenchman River, Govenlock Subdivision, Sask.

27763. Oct. 21.—Ordering Canadian Northern Ry. to build transfer track with C.P.R. near Baintree station, Alta.

27764. Oct. 11.—Extending to Nov. 15 time within which the C.P.R. shall build two-pen stock yard at Cairns, Alta., as required by order 27505, July 30.

27765. Oct. 11.—Authorizing C.P.R. to make a diversion in lieu of portion of road allowance between Cons. 6 and 7, Albion Tp., Peel County, Ont., near mileage 28.9, MacTier Subdivision.

27766. Oct. 9.—Authorizing protection by bells as provided by G.T.R. at following crossings: Second Ave., Lachine; French Road, Vaudreuil; Military Road, Lancaster; Rock Cut, Collins Bay; Laidley Crossing, Ernestown; Geddes St., Belleville; Grier St., Belleville; Lakeborne Road, Colborne; Corbett's Crossing, Whitby Jct.; and Kingston Road Scarboro Jct.

27767 to 27770. Oct. 9.—Authorizing protection by watchmen by G.T.R. at 42 crossings.

27771. Oct. 12.—Authorizing C.P.R. to build spur for Prairie Rose Brewery Ltd., Moose Jaw, Sask.

27772. Oct. 21.—Ordering G.T.R., C.P.R. and Toronto, Hamilton & Buffalo Ry. to publish tariffs of joint through rates on turnips, in carloads, to principal destinations in southern United States as arranged between parties concerned, that shall not exceed lowest combination of rates to and beyond Buffalo, N.Y., or to and beyond basing points commonly called Ohio River Crossings; said tariffs to become effective not later than Nov. 1.

27773. Oct. 22.—Disallowing rates published in commodity tariffs on building material, which have been increased more than 25%, authorized by order in council 1863, July 27, by G.T.R., C.P.R., C.N.R., T.H. & B.R., Q.M. & S.R. Napiervill Jct. Ry., D.A.R. Glengarry & Stormont Ry., Chatham, Wallaceburg & Lake Erie Ry., N.Y.C.R., M.C.R., P.M.R. and Wabash Ry.

27774. Oct. 22.—Ordering C.P.R., in connection with spur to be built for Laing Produce & Storage Co., to pay Mrs. Fraser, owner of lot immediately west, $1,250 as compensation.

27775. Oct. 23.—Authorizing C.P.R. to deepen existing drain from Sydney St., Trenton, Ont., southeasterly.

27776. Oct. 24.—Authorizing Canadian Northern Ry. to open for traffic line from Eston to Glidden, Sask., 20 miles, speed of trains from mileage 101 to 104.5 limited to 18 miles an hour.

27777. Oct. 24.—Suspending Bell Telephone Co. schedules containing proposed increased tolls and charges, effective No. 20, pending hearing to be fixed by the Board.

27778. Oct. 24.—Amending order 27736, Oct. 1, re crossing of Dorchester St., Montreal, by Mount Royal Tunnel & Terminal Co.

27779. Oct. 24.—Approving location of C.P.R. station at Raymond, Alta., crossing of Broadway be narrowed to 66 ft., and street continued in its present line.

27780. Oct. 25.—Authorizing G.T.R. and Grand Trunk Pacific Saskatchewan Ry. to operate over connection at Duro, thence to Engen, Sask., through connection of C.P.R. and G.T.P.R., thence over C.P.R. through Saskatoon, thence through connection between C.P.R. and G.T.P.S.R. and over G.T.P.S.R. and through connection between G.T.P.S.R and G.T.P.R., about 16 miles.

27781. Oct. 28.—Suspending rate of 2c per 100 lbs. on milling-in-transit, pending further hearing.

L. C. Fritch, Vice President, Chicago, Rock Island & Pacific Ry., and Minneapolis & St. Paul Rd., Chicago, in writing to have his address changed, says:—"Please change my address so that I may get your valuable paper regularly. I enjoy it very much."

Canadian Northern Railway Construction, Betterments, Etc.

Mount Royal Tunnel.—The President and directors made a trip of inspection over the line from Toronto, reaching Montreal Sept. 29. The regular operation of trains in and out of the temporary terminal on Lagauchetiere St., Montreal, through the tunnel, was started Oct. 21.

Eastern Lines.—Tenders have been asked for the erection of concrete abutments for bridges at mileage 129, Trenton subdivision, near Malvern, Ont., and mileage 0, on the Brockville subdivision at Brockville, Ont.

Tenders have also been asked for grading team tracks at the Cherry St. yards, Toronto.

The President and directors inspected the works in progress at the Leaside terminals, Toronto, Sept. 28. It was reported that progress on these works has not been as rapid as was anticipated, owing to the scarcity of labor and the difficulty of getting materials.

Central District.—A press report states that the relaying of the line west of Port Arthur with heavier steel rails has been completed as far as Mokomon, 32 miles, and that work has been suspended for the season.

A press report states that plans for the consolidation of the C.N. Ry. and Great Northern Ry. passenger stations and freight sheds at Warroad, Minn., are under consideration.

The Premier of Saskatchewan is reported to have said at Moose Jaw recently that the agreement providing for a joint station for the C.N.R. and the Grand Trunk Pacific Ry. in that city had been signed. It is said that the new station will be built on the C.N.R. property on the Crescent, to which point the company has already built its line. The present G.T.P.R. station is outside the city limits. In addition to building a new station, the agreement provides for the use by the C.N.R. of the G.T.P.R. line between Moose Jaw and Regina. The building will be erected, the Premier said, in the near future, the Saskatchewan Legislature having made provision for guaranteeing bonds to provide the funds. A press report of Oct. 13 says that the proposed union station is to be on Stadacona St., between Third and Fourth Avenues, facing west, and that the freight sheds will be built north of Caribou St., in the vicinity.

Vancouver Island Lines.—M. H. MacLeod, General Manager and Chief Engineer, is reported to have informed the Premier of British Columbia, Oct. 10, that there were then 15 cars of steel rails at Patricia Bay, and that tracklaying out of Victoria towards Nitinat would be commenced Oct. 14 or 15; also that arrangements had been completed for the transfer of a continuous supply of the rails released by the B.C. Government from the Pacific Great Eastern Ry. dump at Squamish, and that 10 additional cars of rails which had just been released from Chicago for the P.G.R. would be diverted to the C.N. Ry. (Oct., pg. 440.)

Werner Horn, who was sentenced to 18 months imprisonment by a United States court for carrying dynamite, contrary to law, was brought before the U.S. Commissioner at Atlanta, Ga., Oct. 9, upon requisition proceedings from New Brunswick to answer a charge of blowing up the C.P.R. bridge on the New Brunswick-Maine boundary in 1895. Horn protested against the proceedings and asked to be interned in the U.S.

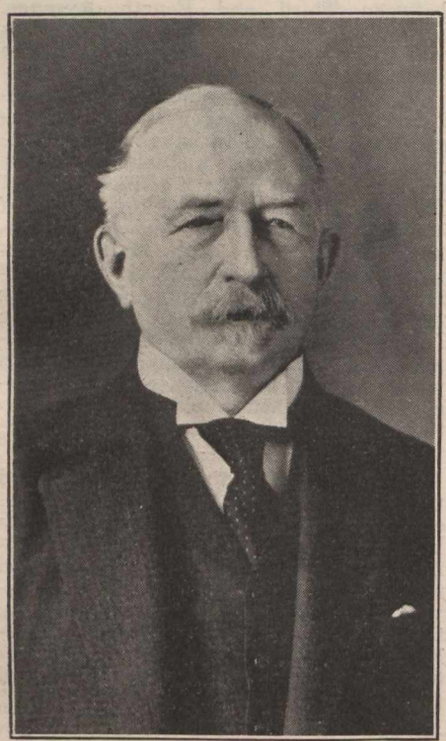
Grain in Store at Terminal Elevators, Interior Terminal Elevators and at Public Elevators in the East.

Week ending Oct. 11, 1918.	Wheat. Bush.	Oats. Bush.	Barley. Bush.	Flax. Bush.	Totals. Bush.
Fort William—					
C.P.R.	149,193	40,571	33,542	6,210	229,516
Consolidated Elevator Co.	509,120	9,300	21,664	17,945	558,029
Empire Elevator Co.	440,710	55,264	39,199	5,767	540,940
Ogilvie Flour Mills Co.	390,075	65,109	78,139	.....	533,321
Western Terminal Elevator Co.	350,725	15,119	22,319	9,054	397,217
G.T. Pacific	459,384	267,848	51,709	4,846	783,787
Grain Growers' Grain Co.	484,131	307,854	209,730	.....	1,001,815
Fort William Elevator Co.	369,246	175,192	29,999	6,640	581,077
Eastern Terminal Elevator Co.	84,279	44,125	11,937	.....	140,341
Port Arthur—					
Port Arthur Elevator Co.	392,877	516,127	217,533	9,788	1,136,325
Canadian Government Elevator	132,454	107,606	14,793	15,209	270,062
Thunder Bay	169,344	95,868	94,191	1,906	361,309
Saskatchewan Co-op. Elevator Co.	717,378	117,185	30,872	7,221	872,656
Total Terminal Elevators	4,648,916	1,817,268	855,625	84,586	7,406,395
Saskatoon Can. Govt. Elevator	104,137	45,245	3,903	468	153,753
Moose Jaw Can. Govt. Elevator	363,053	31,905	3,263	120	398,341
Calgary Can. Govt. Elevator	191,483	96,110	20,066	83	307,742
Vancouver Can. Govt. Elevator	26,934	37,630	.....	.....	64,564
Total Interior Terminal Elevators	685,607	210,890	27,232	671	924,400
Midland—					
Aberdeen Elevator Co.	101,127	4,457	.....	.....	105,584
Port McNicol	220,575	4,927	.....	.....	225,502
Goderich—					
Elevator & Transit Co.	232,512	235,780	.....	.....	468,292
Western Canada Flour Mills, Ltd.	20,155	9,334	.....	.....	29,489
Kingston—					
Commercial Elevator Co.	.....	27,640	.....	.....	27,640
Port Colborne, Can. Govt. Elevator	128,404	.....	.....	.....	128,404
Port Colborne, Maple Leaf Milling Co.	293,854	.....	.....	.....	293,854
Montreal					
Harbor Commissioners No. 1	16,649	130,626	59,409	.....	206,684
Harbor Commissioners No. 2	26,221	291,068	59,251	.....	376,540
Montreal Warehousing Co.	.....	3,994	61,798	.....	65,792
Quebec Harbor Commissioners	10,379	182,527	748	†24,401	218,055
West St. John, N.B.	.....	13,583	.....	.....	13,583
Halifax, N.S.	19,649	.....	.....	.....	19,649
Total Public Elevators	1,069,525	903,936	181,206	†24,401	2,179,068
Total quantity in store	6,404,048	2,932,094	1,064,063	†85,257	10,509,863

† Wheat overshipped. *Corn.

The Changes in the Canadian Pacific Railway Management.

Following a meeting of C.P.R. directors in Montreal, Oct. 10, the following statement was given to the press:—"At a meeting of the directors held in Montreal today, Lord Shaughnessy, after 20 years of office, retired from the presidency of the C.P.R. Co., so that, while relieved of executive duties, he will continue to serve with his counsel and experience. This change is due to Lord Shaughnessy's conviction that in view of the extensive programme planned by the C.P.R. for the period of the war, the best interests of the company would be served if a younger man were to assume the active direction of so large and complex a system. Although several years older than either of his predecessors were at the time when they retired from the presidency, he decided when the war broke out to carry on till the financial horizon should lighten. Now, however, he feels less hesitation in handing over the executive responsibility to a successor, especially to one who has shown notable administrative ability, and who enjoys to a marked degree the confidence not only of the political and business leaders of Canada, but also of the employes of the Canadian Pacific Railway itself. E. W. Beatty, the new president, has been Vice President and General Counsel, and also a director of the C.P.R. Co. for several years.



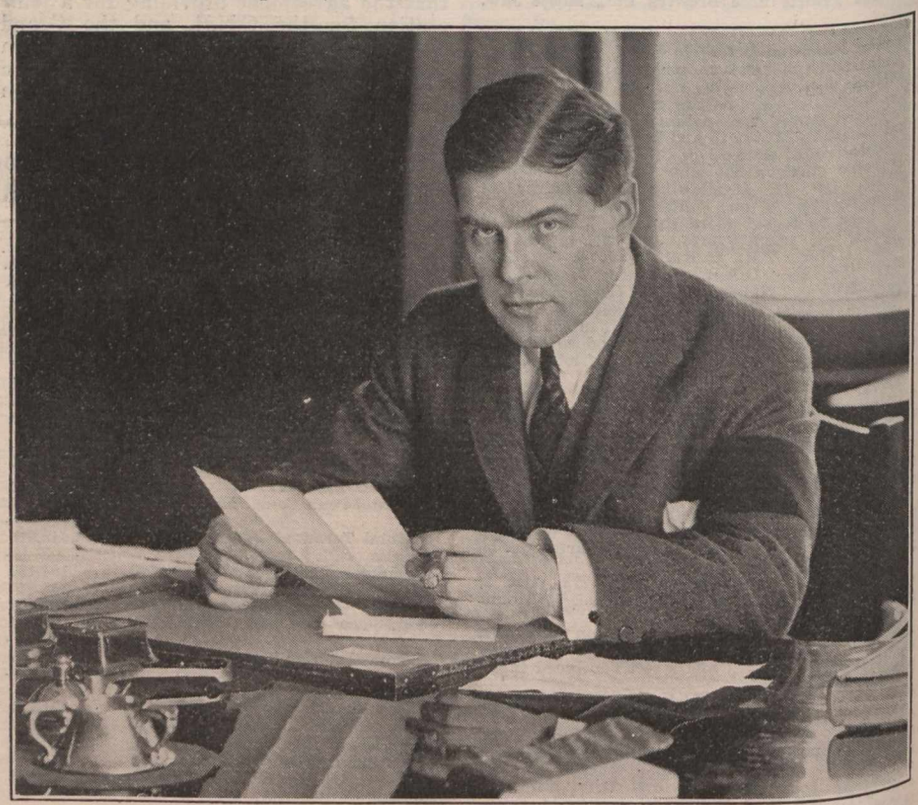
Rt. Hon. Lord Shaughnessy, K.C.V.O.
Chairman, Canadian Pacific Railway Company.

"Sir George Bury, on account of ill health, is retiring from the position of Vice President, and Grant Hall, who has been Vice President in charge of Western Lines, has been appointed in his place."

In a newspaper interview on the same day Lord Shaughnessy is reported to have said:—"Sir George Bury entered the company's service in the early part of 1883, as a junior stenographer in my office when I was General Purchasing Agent, and during the following 35 years he steadily advanced, receiving promotion after promotion in recognition of the fidelity and ability with which his duties were performed wherever he was located and whatever his position, until he finally became Vice President and a member of the executive committee. Unfortunately, his state of health has not been satisfactory for a couple of years past, and with a view to rest and recuperation he asked to be relieved from the duties of the Vice Presidency, and the request was granted by the directors. Although he has retired from the official position he will not be entirely disassociated from the company's affairs."

Lord Shaughnessy retains the suite of offices on the second, or executive, floor of the general office building at Windsor St. Station, Montreal, which he has occupied since the extension down to St. Antoine St. was built. E. W. Beatty remains in room 203, which has been his office as Vice President and General Counsel.

Grant Hall arrived in Montreal from Winnipeg on Oct. 10 and went to work immediately in the office occupied formerly by Sir George Bury. He is reported as saying in a newspaper interview:—"The recent change in my position means, of course, that in future I shall reside in Montreal, but it is my intention to keep in close touch with western conditions and to make my inspection trips over that portion of the system as frequent as possible. The selection of D. C. Coleman as resident Vice President will no doubt commend itself to the public, as he has spent his entire railway career in Western Canada and is thoroughly conversant with traffic conditions and public sentiment in that territory. It can be accepted as an intimation that the railway will be efficiently and capably managed and that the policy of the company there will continue on broad and generous lines."



Edward W. Beatty, K.C.
President, Canadian Pacific Railway Company, in his office.

A few days after the changes were announced, Sir George Bury left for Washington, D.C., and other southern points, accompanied by Lady Bury.

Full particulars of other promotions in the company's service are given under "Transportation Appointments Throughout Canada" and biographical information about all the appointees is given under "Mainly About Railway People Throughout Canada" on other pages of this issue.

These are days of intensely interesting events in regard to the management of Canadian railways. In September, the reorganization of the Canadian Northern directors was accomplished, and D. B. Hanna was promoted to the presidency. Early in October, Lord Shaughnessy retired from the presidency of the C.P.R., after 35 years continuous service with the company.

When Thomas G. Shaughnessy, as he then was, took over the C.P.R. presidency in 1899, from the great and gifted Van Horne, but for whose remarkable ability and indomitable courage the company could not have built its transcontinental line, the company was operating 9,618.6 miles of track and its gross annual revenue was $26,138,977.13. During the twenty years of Lord Shaughnessy's able administration, the company's railway lines have been extended to 18,625.7 miles and its annual gross revenue has grown to $152,389,334.95.

That Lord Shaughnessy performed his duties as President in a most able way, and with due regard not only to the company's interests, but to those of the people as well, is undoubted, and in retiring from active work he has the satisfaction of handing over to his successor, in a magnificent financial position, the

greatest transportation system in the world, whose own combined steamship and railway lines extend from England to China. Lord Shaughnessy has not confined his activities to his railway work, but has taken an active part, as a financial and other institutions. He has played a magnificent part in regard to the war and has been of the greatest assistance to both the British and Canadian governments in this respect, and he has proved himself in every way one of the very foremost and most useful citizens of his adopted country, the people generally of which will wish him many years of comparative relaxation from the arduous work he has carried on for so many years.

E. W. Beatty's appointment to the presidency did not come in the nature of a surprise, except possibly as to its date. For a considerable time he has been looked on as Lord Shaughnessy's logical successor. Some newspapers have referred to his career as a meteoric one. It is nothing of the kind. He has risen, rapidly, it is true, and at a comparatively early age, to the greatest position Canada offers, but this rise is not owing to luck, or anything of a meteoric nature, but simply to sheer force of ability and the possession of most undoubted qualifications.

The C.P.R. has passed through three stages in its career, the first, its inception and early financing, etc., under George Stephen; the second, the construction of its transcontinental line and a number of branches, the establishment of ocean steamship lines, the creation of world wide traffic connections, and the policy of retaining all earning powers in its own hands, under Van Horne; the third, the building of extensions and more feeding lines, the extension of its traffic connections, the development of its lands and the placing of its finances in an unassailable position, under Shaughnessy. Now it enters on its fourth stage, in which its relations to the public and the question of its future as an independent privately owned line, or as a part of a great government system, will be very much to the fore. For dealing with these questions, as well as with the general administration of the immense property, Mr. Beatty is most thoroughly equipped.

Grant Hall's continued promotions, since he first entered C.P.R. service, have been amply justified. He leaves the direct control of the western lines with a splendid record of successful administration and is amply equipped for the larger responsibilities which have been given him.

The changes in executive positions have resulted in several others, which are detailed on other pages of this issue, and have opened the door of opportunity for a number of other officials who have well earned their promotions.

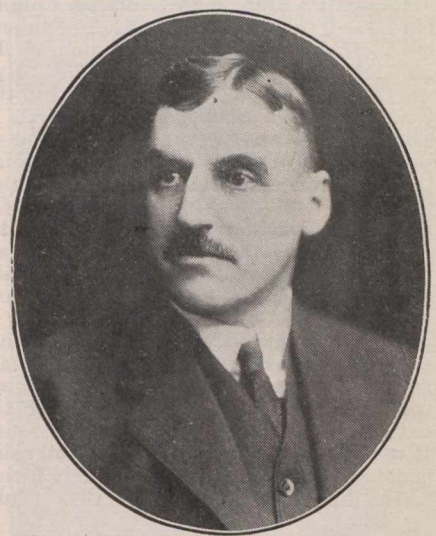
Sir George Bury's retirement from railway service at the early age of 52 is much to be regretted. He is unquestionably a very able operating man, and, unless his state of health prevents, he should have many useful years before him.

The Eastern Canadian Passenger Association met in Montreal, Oct. 8, under the presidency of A. J. Parr, General Freight and Passenger Agent, Timiskaming & Northern Ontario Ry. A. Miller, who had been General Agent, New York Central Rd., at Montreal, and who has been appointed General Agent at Albany, N.Y., resigned the chairmanship of the Association.

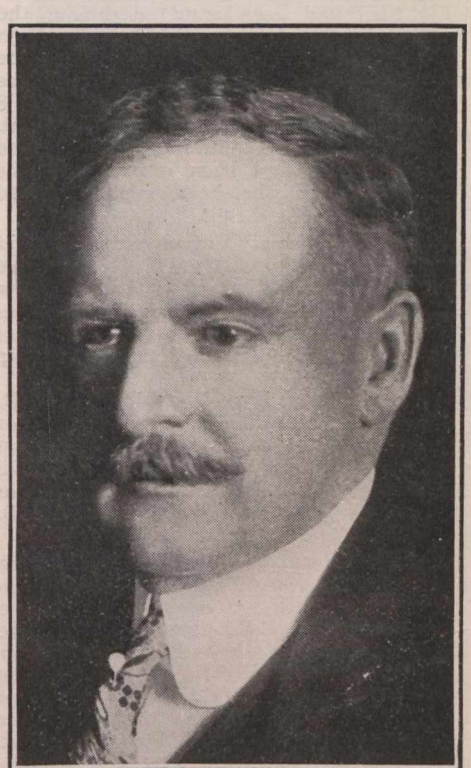
Railway Finance, Meetings, Etc.

Grand Trunk Ry.—A London, Eng., cable stated, Oct. 6, that it was announced there that the G.T.R. directors were unable to pay dividends on the guaranteed or preference stock out of the net earnings for the half year ended June 30.

Grand Trunk Pacific Ry.—The directors for the current year elected at the recent annual meeting, are:—A. W. Smithers, Chairman; H. G. Kelley, President; W. H. Biggar, Vice President and General Counsel; Frank Scott, Vice President and Treasurer; J. E. Dalrymple, Vice President (Traffic); W. H. Ardley, Comptroller; Sir H. M. Jackson, Sir W. L. Young, J. A. Clutton-Brock, Hon. R. Dandurand, Jules Hone, E. J. Chamberlin, J. B. Fraser and P. McAra. W. P. Hinton is Vice President and General Manager.



Grant Hall,
Vice President, Canadian Pacific Railway.



Sir George Bury
Who has retired from the Vice Presidency of the Canadian Pacific Railway.

Moncton & Buctouche Ry.—A meeting of shareholders for transacting all business necessary to consummate the sale of all the real and personal property belonging ot the railway, was called to be held in Moncton, N.B., Oct. 8, but was adjourned until Oct. 15.

The M. & B. Ry. is one of the branch lines for acquiring which provision was made by the Dominion Parliament at its last session. The amount voted by parliament for the purchase of this line was $70,000. The company's history was given in Canadian Railway and Marine World for July, on pg. 280.

Temiscouata Ry.—Gross earnings for July, $36,014; operating expenses, $25,-622; net earnings, $10,392.

Thousand Islands Ry.—The annual meeting was held at Gananoque, Ont., Oct. 4. The officers for the current year are: E. W. Rathbun, President; H. W. Cooper, Manager; J. H. Valleau, Secretary and Treasurer.

Timiskaming & Northern Ontario Ry.—Passenger receipts for August, $64,-298.36; freight receipts, $171,875.53; total receipts, $235,173.89, against $61,955.09, passenger receipts; $117,419.45, freight receipts; $179,374.54, total receipts for Aug., 1917.

Freight and Passenger Traffic Notes.

The last boat of the season from Farcross for Atlin, B.C., left the former point Oct. 28, carrying passengers who had left Vancouver Oct. 19.

The Edmonton, Dunvegan & British Columbia Ry. will, it is reported, inaugurate a through train service from Edmonton to Grand Prairie, Alta., Nov. 1.

The St. John's, Nfld., Board of Trade has taken up with the Reid Newfoundland Co. and the Newfoundland Government, the question of the increased rates on the company's railway, which came into force Oct. 5.

The Canadian Northern Ry. has discontinued operating a local train between Winnipeg and Emerson, Man., leaving this traffic to the Great Northern Ry., which operates over the branch under na agreement.

The Grand Trunk Pacific Ry., in order to meet the wishes of the Canadian Railway War Board regarding the conservation of fuel, has discontinued for the winter operating parlor-observation cars between Winnipeg and Edmonton.

The Grand Trunk Pacific Ry. has begun operating its trains, both east and west bound, into the C.P.R. station at Saskatoon, thus eliminating the transfer from South Saskatoon into the city. The C.P.R. station thus becomes a union station for both railways, and South Saskatoon is discontinued as a ticketing station.

The Victoria, B.C., Board of Trade, on Oct. 3, discussed the stoppage of the running of the C.P.R. steamship to the mainland on Sunday nights, and a suggestion was made that if it was absolutely necessary to suspend the service one night in the week, Saturday night would be a more convenient night than Sunday for cutting the service.

The C.P.R. has completed arrangements for the sale of through tickets from points on its line to points on the Edmonton, Dunvegan & British Columbia Ry. Baggage may be checked through to provide for their own transfer between the stations of the two companies in Edmonton. These stations are about a mile apart, and there is street car connection between them.

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

Alberta & Great Waterways Ry.—J. D. McArthur, President, is reported to have said in an interview at Edmonton, Oct. 4, that rails would be laid into McMurray this autumn, and that traffic would be carried to that point as it offered during the winter. Traffic to warrant a frequent service could not be expected at first. (July, pg. 285.)

The Beaver Cove Lumber & Pulp Co. has deposited plans with the Minister of Public Works, Ottawa, for railway trestles, log dump, wharf, buildings, etc., to be built on Beaver Cove, Broughton Strait, in front of section 2, Rupert District, B.C. E. A. Cleveland, Vancouver, is engineer in charge.

Canadian Pacific Ry.—The Mayor of Victoria, B.C., is reported to have informed the city council recently that in the discussion of the Johnston St. bridge matter with the C.P.R. directors, Lord Shaughnessy summed it up by stating that the discussion narrowed down to three propositions, namely: (1) That the railway would proceed to carry out the terms of the order in council of 1887, providing accommodation for railway, foot and vehicular traffic. (2) The railway would join with all other interested parties in the construction of a modern up to date joint highway and highway bridge. (3) The construction, alongside of one another, of two separate bridges, one, a highway bridge, constructed by the government, the city, and other interested parties, excepting the Esquimalt & Nanaimo Ry.; the other bridge to be constructed by the Esquimalt & Nanaimo Ry., for the use of the railway, of a design in harmony with the highway bridge. A decision as to what will be done is expected to be reached shortly. The mayor had a conference with H. E. Beasley, General Superintendent, Esquimalt & Nanaimo Ry., and P. B. Motley, Engineer of Bridges, in regard to the matter, Oct. 12. Mr. Motley left the same day for Montreal to report on the question. (Sept., pg. 438.)

Central Canada Ry.—J. D. McArthur, President, is reported to have said in Edmonton, Oct. 4, on returning from a trip of inspection over the line made in company with the Premier and other members of the Alberta Government, that the line is ballasted throughout to the crossing of the Peace River. Rapid progress was made this year with the erection of the bridge across the river. The contract calls for the completion of the bridge by April, 1919, but it was expected to be finished by Nov. 1. The bridge will not be available for general traffic until the 50 ft. dump at the east end is completed next summer, the material for the widening having to be obtained from an excavation at the west end of the bridge. Grading has been in progress on a 14 mile stretch on the west side of the river, and with the exception of 5 miles of heavy work partially done, this is finished. This carries the line to the upland level on a gradient of 1.5%. There will be difficulty in getting rails for this line and for the further extension into the water hole district. (Sept., pg. 390.)

Dominion Atlantic Ry.—The Board of Railway Commissioners has authorized the opening for traffic of the company's North Mountain Branch, 15.03 miles. This branch starts at Centerville, on the Cornwallis Branch, 7 miles from Kentville, and extends to Weston, on the Bay of Fundy. Construction was started in 1914, the track being laid the same year. Following are the stations on the line, with their mileages from Centerville:—Billtown, 2.9 miles; Lakeview, 5.3 miles; Woodville, 7.2 miles; Grafton, 9.5 miles; Somerset, 12.3 miles, and Weston, 15.3 miles. (Sept., pg. 390.)

Edmonton, Dunvegan & British Columbia Ry.—The Premier and other members of the Alberta Government and J. D. McArthur, President, E.D. & B.C. Ry., were guests at a dinner given by the Grande Prairie Board of Trade, Oct. 1. The occasion was a general inspection of this and the other railway lines in which the government is interested, and which are being built by J. D. McArthur. On returning to Edmonton, Oct. 4, J. D. McArthur is reported to have said that ballasting on the line had been completed to within 12 miles of Spirit River, and that work would be started at once in putting the Grande Prairie Branch into good shape for traffic. A through train service to Grande Prairie will be inaugurated Nov. 1. The completion of the extension of the main line from Spirit River to the Pouce Coupee extension could not be decided upon definitely owing to the difficulty of obtaining rails. (July, pg. 285.)

Grand Trunk Pacific Ry.—In an interview at Vancouver, B.C., Oct. 10, H. Carlton, of Carlton & Co., contractors, said his firm had been engaged during the summer on ballasting and other work on the G.T.P. Ry. in British Columbia. The headquarters of the work were at Prince George, and there had been employed 8 steam shovels and a hydraulic plant. Slides of embankments had been removed and cuttings had been improved, while ballasting and other betterment work had been done. (Sept., pg. 90.)

The Michigan Central Rd.'s freight sheds at Ridgetown, Ont., were destroyed by fire caused through sparks from a passing train Oct. 10. The loss is estimated at $10,000. The building was of frame and over 100 ft. long. (Oct., pg. 438.)

North Shore Ry.—The Moncton, N.B., Board of Trade has asked the Dominion Government to take over and operate as a branch of the Intercolonial Ry., this line, which runs from Adamsville Jct., on the Intercolonial Ry., to Beersville, N.B., 14 miles. (Oct., pg. 438.)

Pacific Great Eastern Ry.—A press report states that 8 miles of track have been laid on the extension of the line beyond Clinton, B.C., since work was resumed. Other work done includes the distribution of 25,000 ties, the stringing of 19 miles of telephone line, the completion of bridge 132, a 340 ft. structure, and the making of considerable progress with bridge 133. A contract is reported to have been let locally for the erection of a station and freight shed at the Seventy-Mile crossing of the Cariboo Road. (Oct., pg. 438.)

Quebec & Saguenay Ry.—A press report states that it is expected to have the grading, etc., from Baie St. Paul to Murray Bay, Que., ready for tracklaying before the end of the year. There is reported to be one obstacle in the way of completing the line, viz., the building of a bridge over the River du Graffe at Baie St. Paul. The plans call for the erection of a fixed span bridge resting on piers built in the bed of the river. Local people claim that the river is a navigable one and that the bridge should be built so as not to impede navigation. This matter is reported to have been taken to a Quebec court for decision. (Oct., pg. 438.)

Roberval-Saguenay Ry.—We are officially advised that the company has decided to postpone for the present the proposed construction of a spur line from near Pont Arnaud, on the main line, to a loading point at Riviere-du-Moulin, Que., 1.5 miles. (June, pg. 241.)

St. John & Quebec Ry.—C. O. Foss, Chief Engineer, is reported to have said at a dinner given by the St. John, N.B., Board of Trade, Oct. 7, that it was hoped to have the extension from Gagetown to a connection with the C.P.R. ready for operation this year, but labor was so scarce that no definite date could be set for the opening of the extension. The main work of construction had been completed, all that remained to be done was the placing in position of three or four bridge spans and the ballasting of the tracks. (Oct., pg. 438.)

Sydney & Louisburg Ry.—A press report states that a contract has been let to Chappell Bros. for the erection of a locomotive house at Sydney, N.S., the building to be of concrete and brick, with a modern truss roof, and that it is expected to be completed within three months, and that the estimated cost of the work is $75,000.

Canadian Railway War Board's Work.

Changes in Committees.—D. B. Hanna, President, Canadian Northern Ry., has succeeded Sir Wm. Mackenzie on the executive committee on war and national defence. Grant Hall, Vice President, C.P.R., has succeeded Sir George Bury as a member of the administrative committee, and has been appointed its acting chairman during the absence through illness of the chairman, U. E. Gillen, Vice President, G.T.R. M. H. MacLeod, Vice President, operation, etc., Canadian Northern Ry., will succeed D. B. Hanna as a member of the Administrative Committee. W. P. Hinton, Vice President and General Manager, Grand Trunk Pacific Ry., is reported to have been appointed to succeed Grant Hall as chairman of the Western administrative sub-committee.

Freight House Hours of Labor.—Owing to the insistent demand of labor for an 8-hour day, which has been recognized, and which railways have undertaken to apply in Canada, it is considered necessary to work freight house staffs on the 8-hour day basis. It is, therefore, directed that, effective Oct. 15, 1918, railway freight houses shall be opened for the receipt and delivery of freight on week days at 7.30 a.m. daily, and closed at 5 p.m. daily, except Saturday, on which day houses shall be closed at 1 p.m.

G. Black, formerly local manager, Great North Western Telegraph Co., Hamilton, Ont., died there Oct. 2, aged 81. He was born at Montreal. and was in telegraph service at St. Hyacinthe, Que., and Brockville, Ont., before being appointed to Hamilton, where he remained as local manager for about 40 years, retiring about 10 years ago.

W. E. Norman, heretofore Assistant Superintendent, has been appointed Superintendent, Canadian Express Co., vice E. Allen, deceased.

Mainly About Railway People Throughout Canada.

W. B. Howard, District Passenger Agent, C.P.R., Toronto, was married there, Oct. 8.

Sir Henry Drayton, K.C., Chief Railway Commissioner, resumed his duties, Oct. 18, after an attack of influenza.

James Barbour, Claims and Right of Way Agent, Canadian Northern Ry., Toronto, died there, Oct. 17, aged 50.

Frank Scott, Vice President and Treasurer, G.T.R., Montreal, has also been elected a director of the Central Vermont Ry. Co.

Hon. J. D. Reid, Minister of Railways and Canals, returned to Ottawa at the end of October after a trip to California with Mrs. Reid.

Sir Henry Drayton, K.C., Chief Railway Commissioner, was confined to his home at Ottawa, early in October, with influenza, and resumed his duties Oct. 16.

A. S. McDonald, Locomotive Foreman, C.P.R., Regina, Sask., was presented with a case of silver by the local locomotive staff, Sept. 30, on his retirement on superannuation, after 35 years service.

Capt. T. A. Hiam, formerly private secretary to Sir Donald Mann, who went overseas with the Canadian Buffs from Toronto, and transferred to the Royal Engineers, has been sent to Salonika in the railway operations branch.

E. P. Cushing, formerly private secretary to the President, C.P.R., was presented with a smoker's set by a number of his associates at Montreal, recently, on his appointment as Purchasing Agent, C.P.R., Winnipeg.

W. B. Lanigan, Freight Traffic Manager, C.P.R., was entertained to luncheon by the Winnipeg Board of Trade, Oct. 8, and presented with a grandfather's clock, on leaving Winnipeg, where he had been Assistant Freight Traffic Manager, for Montreal, to take up his new duties.

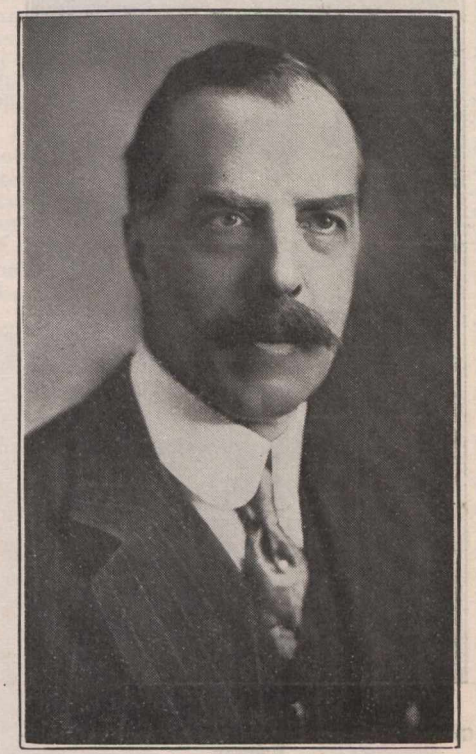
W. F. Langton, whose appointment as General Manager, Dominion Transport Co., Montreal, was announced in our last issue, was presented with a desk and an illuminated address by the staff at Toronto, before leaving there, where he had been Superintendent for a number of years.

George Cairns, at one time Yardmaster, C.P.R., Ottawa, Ont., and for some time subsequently, up to his superannuation about three years ago, baggage man on C.P.R. trains through the Gatineau Valley, died at Westboro, near Ottawa, Oct. 22. He had been in railway service for nearly 50 years.

J. F. Aitchison, who has been appointed acting Auditor of Disbursements, G.T.R. and Grand Trunk Pacific Ry., Montreal, entered G.T.R. service in 1897, since when he has been, to 1914, in accounting department, London, Ont.; 1914 to 1917, travelling accountant, Montreal; 1917 to Oct., 1918, special auditor, Montreal.

W. W. Butler, Vice President and Managing Director, Canadian Car and Foundry Co., Montreal, has won the shield trophy donated by the Canadian Northern Ry. annually to any non-resident angler catching the largest speckled trout with the regulation tackle prescribed for Nipigon waters. The fish was 23 in. long and 15 in. in girth.

Victor Albert George Day, who has been appointed Resident Engineer, Toronto Terminals, C.P.R., was born at Aberdeen, Scotland, Feb. 4, 1883, and entered C.P.R. service in Sept., 1903, since when he has been, to June, 1907, draftsman, Montreal; June, 1907, to June, 1911, office engineer, Montreal; June, 1911, to Aug., 1918, Assistant Engineer, Construction Department, Montreal.



A. D. MacTier,
Vice President, Eastern Lines, Canadian Pacific Railway.

D'Alton C. Coleman,
Vice President, Western Lines, Canadian Pacific Railway.

J. M. Rosevear, who has been appointed General Auditor, G.T.R. and Grand Trunk Pacific Ry., Montreal, was born at St. Lambert, Que., Aug. 9, 1869, and entered G.T.R. service in 1897, since when he has been, to 1905, clerk in Accounting Department; 1905 to 1907, travelling accountant; 1907 to Sept. 1, 1908, chief clerk to Auditor of Disbursements; Sept. 1, 1908, to Oct., 1918, Auditor of Disbursements.

Basil Magor, formerly Vice President and Managing Director, National Steel Car Co., who left Hamilton, Ont., some months ago and returned to the United States, has been appointed by the Vice President and General Manager of the United States Shipping Board Emergency Fleet Corporation, as District Manager for the North Atlantic District. Additional particulars are given in the Marine Department, farther on in this issue.

C. F. Burns, Auditor of Disbursements, Canadian Government Railways, Moncton, N.B., died suddenly through heart failure, at his home, Oct. 16. He was born at Clementsport, N.S., Sept. 10, 1853, and held the position of Auditor of Disbursements since July, 1906, when that department was inaugurated. Prior to that appointment he was connected with the Audit Department as travelling auditor and chief clerk, and was in C.G.R. service for about 20 years.

Charles Spencer, who died at Ottawa, Oct. 15, aged 85, was, at the time of his superannuation a few years ago, one of the oldest employes of the C.P.R., having been in the service of the company and its predecessor for about 45 years. He was for many years a conductor on various C.P.R. lines. H. B. Spencer, Superintendent, Ottawa Division, Ontario District, is a son, and the late C. W. Spencer, at one time in the C.P.R. service and afterwards with the Canadian Northern Ry., was another son.

T. T. Irving, whose appointment as Chief Engineer, G.T. Western Lines Rd., Detroit, Mich., was announced in our last issue, was educated at the Prince of Wales College and McGill University, and graduated in 1898. He entered G.T.R. service in May, 1898, and was to 1904, Assistant Engineer, Eastern Division, Montreal; 1904 to 1912, Resident Engineer on the Western Lines; 1912 to 1913, Trainmaster, and 1913 to Aug., 1918, Division Engineer, Western Lines, Chicago, Ill.

G. U. Ryley, Land Commissioner, Grand Trunk Pacific Ry., Winnipeg, has retired from the service. He was born at Hamilton, Ont., June 16, 1853, and is a Dominion Land Surveyor. He was engaged in Manitoba and the North West Territories on surveys for the Dominion Government in 1881 and 1882, and in 1883 he entered the Department of the Interior's lumber and mines branch at Ottawa, Ont., becoming chief clerk, July 1, 1898. He was appointed Land Commissioner, Grand Trunk Pacific Ry., at Winnipeg, in Nov., 1906.

E. B. Skeels, formerly Resident Engineer, C.P.R., Lethbridge, Alta., now Superintendent, Bates & Rogers Construction Co., civil engineers and contractors, has been transferred from Cincinnati to Toledo, Ohio, where he has been given charge of the construction of the water and sewer systems for the $15,000,000 air nitrates plant being built for the Air Nitrates Corporation by the Bates & Rogers Construction Co. He retains charge of the work near Cincinnati on which he was engaged previously until its completion.

M. W. Bard, who has been acting as acting Superintendent, Farnham Division, Quebec District, C.P.R., Farnham, Que.,

was born at Walnut, Bureau County, Ill., June 27, 1871, and entered railway service, Jan. 8, 1890, since when he has been, to Aug. 2, 1901, freight brakeman, Chicago, Burlington & Quincy Rd.; Aug. 2, 1901, to Aug. 1, 1913, freight conductor, same road; Aug. 1, 1913, to 1914, passenger conductor, same road; 1914 to Jan. 24, 1916, Trainmaster, Construction Department, same road; Jan. 24, 1916, to Oct., 1918, Assistant Superintendent, Farnham Division, Quebec District, C.P. R., Farnham, Que.

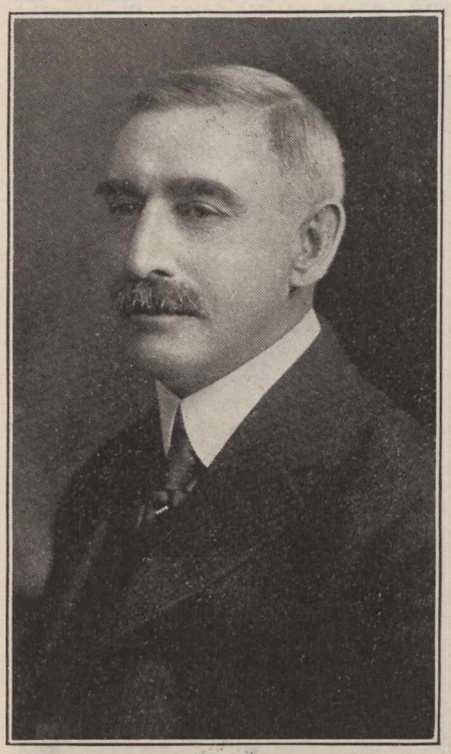
Karl Fritjof Nystrom, who has been appointed chief draftsman, Chief Mechanical Engineer's office, C.P.R., Montreal, was born in Sweden, Sept. 2, 1881, and came to North America in 1905, since when he has been, to 1908, draftsman, Pressed Steel Car Co., Pittsburg, Pa.; 1908 to 1909, draftsman, Pullman Co., Chicago, Ill.; 1909 to 1911, designing engineer, Southern Pacific Co., San Francisco, Cal.; 1911 to 1912, Assistant Mechanical Engineer, American Car & Foundry Co., St. Charles, Mo.; 1912 to 1913, Mechanical Engineer, Acme Supply Co., Chicago, Ill.; 1913 to 1918, chief draftsman, Car Department, G.T.R., Montreal.

A. D. MacTier, who has been appointed Vice President in charge of C.P.R. lines east of Port Arthur, Ont., at Montreal, was born at Blairgowrie, Scotland, Dec. 27, 1867, and entered C.P.R. service in May, 1887, since when he has been, to Apr., 1896, successively, in General Baggage Agent's office, General Superintendent's office, Superintendent Sleeping, Dining and Parlor Car Stores, and Car Service Departments; Apr., 1896, to Nov., 1899, General Baggage Agent; Nov., 1899, to June, 1907, General Fuel Agent; June, 1907, to Dec. 31, 1912, Assistant to Vice President, Montreal; Dec. 31, 1912, to Oct. 15, 1918, General Manager, Eastern Lines, Montreal.

B. J. Farr, who has been appointed Superintendent, Motive Power and Car Department, Grand Trunk Western Lines Rd., Detroit, Mich., under the U.S. Railroad Administration, entered railway service July 1, 1893, with the Central Vermont St. Ry., St. Albans, Vt., as a machinist apprentice, and was subsequently Erecting Shop Foreman, Locomotive Foreman and General Foreman there, resigning in 1907 on his appointment as Master Mechanic, Northern Ry. of Costa Rica. From 1909 to 1914 he served on the Panama Ry. during the construction of the Panama Canal, and on Jan. 1, 1915, was appointed General Foreman, Western Lines, G.T.R., Battle Creek, Mich., and in Oct., 1916, Master Mechanic Battle Creek, Mich.

Charles Henry Towle, who has been appointed Assistant Superintendent, Smiths Falls Division, Quebec District, C.P.R., Smiths Falls, Ont., was born at Enfield, Me., Apr. 13, 1878, and entered railway service in Oct., 1893, since when he has been, to Feb., 1894, station baggage master, Maine Central Rd., Enfield, Me.; Feb., 1894, to Aug., 1896, freight brakeman, same road, Bangor, Me.; Aug., 1896, to Dec., 1898, freight brakeman, C. P.R., Brownville Jct., Me.; Dec., 1898, to Sept., 1914, freight conductor, same road, Brownville Jct., Me.; Sept., 1914, to Nov., 1915, General Yardmaster, same road, McAdam Jct., N.B.; Nov., 1915, to Oct., 1918, Assistant Superintendent, Brownville Division, New Brunswick District, same road, Brownville Jct., Me.

Ross Garfield Edwards, who has been appointed Assistant Superintendent, Windsor Division, Ontario District, C.P. R., London, Ont., was born at Maitland, Ont., Oct. 10, 1883, and entered C.P.R. service Dec. 24, 1900, since when he has been, to May 31, 1901, caller; May 31, 1901, to July, 1902, checker; July, 1902, to Apr. 14, 1904, yard office clerk; Apr. 14, 1904, to Oct. 21, 1906, chief clerk;



Alfred Price,
General Manager, Eastern Lines, Canadian Pacific Railway.

C. Murphy,
General Manager, Western Lines, Canadian Pacific Railway.

Oct. 21, 1906, to Apr. 5, 1907, yardman and yard foreman; Apr. 5, 1907, to Feb. 11, 1909, Yardmaster; Feb. 11, 1909, to May 31, 1915, General Yardmaster, all at Smiths Falls, Ont.; May 31, 1915, to Nov., 1917, Assistant Superintendent, Montreal Terminals Division, Quebec District, Montreal; Nov., 1917, to Oct., 1918, Assistant Superintendent, Trenton Division, Ontario District, Havelock, Ont.

Lord Southborough, G.C.B., G.C.M.G., G.C.V.O., has been elected a director of the Grand Trunk Ry. Co., in place of the late Col. F. Firebrace. Better known as Sir Francis Hopwood, he was associated with the British Board of Trade from 1885 until his recent retirement. He was appointed Secretary to the Railway Department in 1893, and has visited Canada, Newfoundland and the U.S. on various missions. He founded the hospital and medical service for Canadian and Newfoundland fishermen, and was a British delegate to the International Railway Congress in London in 1895, and Paris in 1900. He has been a member of numerous royal commissions, including those on London traffic, shipping rings, canals, etc., and was on the staff of the Prince of Wales, now King George, on his visit to Canada in 1908.

Edward W. Beatty, K.C., who has been elected President, C.P.R., Montreal, was born at Thorold, Ont., Oct. 16, 1977. He was educated at the Model School, and Harbord Collegiate Institute, Toronto, and the University of Toronto, graduating in 1898. He served his articles with the late D'Alton McCarthy, of McCarthy, Osler, Hoskin & Creelman, Toronto, and was admitted to the bar in 1901. On the appointment of A. R. Creelman, as Chief Solicitor, C.P.R., he accompanied him to Montreal, and was appointed Assistant Solicitor, Jan. 1, 1905; General Solicitor, Mar. 1, 1910; General Counsel, June, 1913, and Vice President and General Counsel, Dec., 1914. He is a son of the late Henry Beatty, at one time Manager, Upper Lakes Steamships, C.P.R., Toronto, and Dr. H. A. Beatty, Chief Surgeon, Ontario District, C.P.R., Toronto, is a brother.

William Allan Mather, who has been appointed General Superintendent, Manitoba District, C.P.R., Winnipeg, was born at Oshawa, Ont., September, 1885, entered C.P.R. service in May, 1903, and during the summers of 1903, 1905, 1906 and 1908, acted as axeman, tapeman, rodman and instrument man, at Rush Lake and Deception, Ont.; Apr. 1 to Oct. 1, 1909, instrument man, Kenora, Ont.; Oct. 1, 1909, to Jan. 1, 1910, transit man, Laggan, B.C.; Mar. 15, 1910, to Mar. 1, 1912, Resident Engineer, Winnipeg and Portage la Prairie, Man.; Mar. 1, 1912, to Jan. 1, 1913, acting Superintendent, Kenora, Ont.; Jan. 1, 1913, to Jan. 1, 1915, Superintendent, Kenora, Ont.; Jan. 1 to June, 1915, Superintendent, District 1, Alberta Division, Medicine Hat, Alta.; June, 1915, to Oct., 1918, Assistant General Superintendent, British Columbia District, Vancouver.

Arthur Crumpton, who has been appointed Valuation Engineer, G.T.R., Montreal, was born at Toronto, Jan. 1, 1869, and entered G.T.R. service, Jan. 25, 1889, since when he has been, to 1892, rodman and draftsman, Maintenance of Way, field and office work, bridge renewals, and branch line construction, Northern and Northwestern Division, Toronto, Allandale and Hamilton, Ont.; 1893 to 1895, Assistant Engineer, Great Western Division, Hamilton, Ont.; 1896 to 1901, Assistant Engineer, field and office work in connection with the permanent renewal of 300 bridges between the Atlantic and the Detroit River; 1902 to 1906, Assistant Engineer, Montreal; 1907 to 1915, on location surveys for new lines in Indiana, Michigan, Ontario, Quebec, Massachusetts and New York State; 1916 to Oct., 1918,

Assistant Valuation Engineer, lines in Maine, New Hampshire, Vermont, New York, Indiana and Illinois.

C. Murphy, who has been appointed General Manager, Western Lines, C.P.R., Winnipeg, was born at Prescott, Ont., Nov. 20, 1865, and entered C.P.R. service in 1883, since when he has been, to 1885, operator; 1885 to 1890, chief operator and dispatcher; 1890 to 1899, Chief Dispatcher, Ottawa, Ont.; 1899 to June, 1900, acting Superintendent, Chapleau, Ont.; June, 1900, to 1902, Superintendent, Chapleau, Ont.; 1902 to Nov., 1903, Superintendent, North Bay, Ont.; Nov., 1903, to Feb., 1908, Superintendent, District 2, Ontario Division; Feb. to June, 1908, relieving General Superintendent, North Bay, Ont.; and at Montreal; June, 1908, to Sept. 30, 1910, General Superintendent, Eastern Division, Montreal; Sept. 30, 1910, to July 15, 1913, General Superintendent of Transportation, Eastern Lines, Montreal; July 15, 1913, to Oct. 15, 1918, General Superintendent, Manitoba District, Winnipeg.

J. K. Savage, who has been appointed Assistant General Superintendent, Ontario District, C.P.R., Toronto, was born at Forreston, Ill., Oct. 5, 1876, and entered C.P.R. service, Mar. 1, 1890, since when he has been, to May 1, 1894, station agent at various points in Quebec; May 1, 1894, to May 24, 1897, dispatcher, Farnham, Que.; Jan. to Sept., 1904, Night Chief Dispatcher, Toronto; Sept., 1904, to Sept., 1906, Inspector Train Dispatching, Western Lines, Winnipeg; Sept., 1906, to Mar. 1, 1907, Chief Dispatcher, District 1, Central Division, Kenora, Ont.; Mar. 1, 1907, to Dec., 1908, Trainmaster, District 3, Central Division, Brandon, Man.; Dec., 1908, to Jan. 1, 1912, Chief Dispatcher, District 3, Central Division, Brandon, Man.; Jan. 1, 1912, to Jan. 1, 1917, Superintendent, Regina Division, Saskatchewan District, Regina; Jan. 1, 1917, to Oct. 15, 1918, Superintendent, Smiths Falls Division, Quebec District, Smiths Falls, Ont.

George Bradshaw, whose appointment as Supervisor of Safety under the U.S. Railroad Administration at Detroit, Mich., was announced in our last issue, was born at Franklin, Ky., Sept. 12, 18783, and entered railway service Nov. 17, 1902, since when he has been, to May 1, 1909, Assistant Claim Agent, Chicago & North Western Ry., Chicago, Ill.; May 1, 1909, to Mar. 16, 1913, General Safety Agent, New York Central Lines, New York, N. Y.; Aug. 16, 1913, to Sept. 21, 1918, Safety Engineer, G.T.R. and Grand Trunk Pacific Ry., Montreal, Winnipeg and Toronto. Between Mar. 16 and Aug. 16, 1913, he was engaged in special work as safety engineer. The roads to be covered by him under the U.S. Railroad Administration are: Ann Arbor; Detroit, Bay City & Western; Detroit & Mackinac; Detroit & Toledo Shore Line; Fore St. Union Depot; Grand Trunk Western Lines; Pere Marquette; Port Huron & Detroit; Port Huron Southern, and the Lake Michigan Car Ferry Association.

Senator H. W. Richardson was found dead in bed at his home at Kingston, Ont., Oct. 27. He had been in apparent good health, and had been on a shooting trip on the previous day. Heart failure during sleep was given as the cause of death. He was born at Kingston, Ont., in 1855, and was a member of the firm of Jas. Richardson & Sons, Ltd., grain merchants. He was associated with several transportation companies, and at the time of his death, was President, Kingston, Portsmouth & Cataraqui Electric St. Ry., Kingston; Vice President, Great Lakes Transportation Co., and director, Midland Shipbuilding Co., Midland, and until his appointment as a Senator, was one of the Government directors of the Canadian Northern Ry. He was a former Vice President, Canadian Lake Protective Association, and was for some time a director of Canada Steamship Lines, Limited. The funeral at Kingston, Oct. 30, was very largely attended, the procession being over a mile long. Among those attending were: Hon. J. D. Reid, Minister of Railways and Canals; J. E. Dalrymple, Vice President, Traffic, G.T.R.; and Jas. Playfair, of Midland, Ont.

John Robert Caswell, who has been appointed Division Engineer, C.P.R., London, Ont., was born at Coldwater, Ont., Apr. 13, 1891, and entered transportation service in 1907, and during the summers of 1907, 1908 and 1909, served as chainman in the Construction Department, C.P.R., working on the Toronto-Sudbury

C. W. Van Buren,
General Master Car Builder, Canadian Pacific Railway, who was killed in an automobile accident, near Albany, N.Y., Aug. 24. For biographical data, see September issue, page 394.

Branch; Apr., 1910, to Sept., 1911, chainman, Maintenance of Way Department, C.P.R., Toronto; Sept., 1911, to Sept., 1912, rodman and instrument man, Construction Department, C.P.R., working on the Georgian Bay and Seaboard Ry., South Ontario Pacific Ry.; Sept., 1912, to Dec., 1914, transit man, Forsyth St. Branch, C.P.R., Montreal; Dec., 1914, to Oct., 1915, transit man, Lake Erie and Northern Ry., Simcoe, Ont.; Oct., 1915, to Sept., 1916, chief of an engineering party, Westinghouse, Church, Kerr Co., Drummondville, Que.; Sept. to Nov., 1916, chief of an engineering party, Foundation Co., Port Colborne, Ont.; Nov., 1916, to Apr., 1917, transit man, Hydro Electric Power Commission of Ontario, Niagara Falls, Ont.; Apr. to Dec., 1917, transit man, C.P.R., London, Ont.; Jan. to Sept., 1918, transit man, Hydro Electric Power Commission of Ontario, Niagara Falls, Ont.

H. E. Bissell, who has been appointed Land and Tax Agent, Grand Trunk Pacific Ry., Winnipeg, was born near Noyan, Que., Dec. 31, 1867, and entered railway service in Oct., 1887, since when he has been, to May, 1888, baggage master, freight house foreman and manifest clerk, G.T.R. and Delaware & Hudson Co., Rouses Point, N.Y.; May to Nov., 1888, Assistant Yardmaster, Central Vermont Ry. and Ogdensburg & Lake Champlain Rd., Rouses Point, N.Y.; Nov., 1888, to Dec., 1889, billing clerk, same roads, Rouses Point, N.Y.; Dec., 1889, to Nov., 1892, chief clerk and cashier, same roads, Rouses Point, N.Y.; Nov., 1892, to Apr., 1894, station agent, same roads and Canada Atlantic Ry., Rouses Point, N.Y.; Apr., 1894, to May, 1900, in private business; June, 1900, to May, 1904, in General Auditor's office, Central Vermont Ry., St. Albans, Vt.; May, 1904, to Feb., 1907, chief clerk of general accounts, same road, St. Albans, Vt.; Feb., 1907, to Apr. 1, 1911, chief clerk to Chief Engineer, Grand Trunk Pacific Ry., Montreal; Apr. 1, 1911, to Jan. 1, 1912, Assistant Right of Way and Claims Agent, same road, Winnipeg; Jan. 1, 1912, to Oct. 1, 1918, Right of Way and Claims Agent, same road, Winnipeg.

Charles Ernest Stockdill, who has been appointed Assistant to Vice President, Western Lines, C.P.R., Winnipeg, was born at London, Ont., Oct. 25, 1881, and entered C.P.R. service July 1, 1899, since when he has been, to Feb. 1, 1900, clerk, Roadmaster's office, London, Ont.; Feb. 1, 1900, to Apr. 30, 1901, clerk in Superintendent's office, London, Ont.; May 1, 1901, to June 15, 1903, secretary to General Superintendent, North Bay, Ont.; June 15, 1903, to Sept. 23, 1904, chief clerk to Master Mechanic, North Bay, Ont.; Sept. 24, 1904, to July 12, 1905, chief clerk to Superintendent, Winnipeg; July 12, 1905, to Feb. 28, 1907, chief clerk to General Superintendent, Calgary, Alta.; Mar. 1 to Dec. 1, 1907, assistant chief clerk to Assistant General Manager, Winnipeg; Dec. 1, 1907, to Sept. 30, 1908, assistant chief clerk to Second Vice President, Winnipeg; Oct. 1, 1908, to Aug. 9, 1910, chief clerk to Second Vice President, Winnipeg; Aug. 9, 1910, to Oct. 1, 1911, chief clerk to General Manager, Winnipeg; Oct. 1, 1911, to Dec. 31, 1914, chief clerk to Vice President and General Manager, and then to Vice President, Winnipeg; Dec. 31, 1914, to Oct. 15, 1918, Assistant to Vice President and General Manager, Western Lines, Winnipeg.

D'Alton Corry Coleman, who has been appointed Vice President in charge of C.P.R. lines west of Port Arthur, Ont., at Winnipeg, was born at Carleton Place, Ont., July 9, 1879, and entered C.P.R. service Nov. 4, 1899, since when he has been, to Jan. 11, 1900, stenographer, Assistant Engineer's office, Fort William, Ont.; Jan. 11 to July 1, 1900, secretary to Superintendent, Fort William, Ont.; July 1 to Sept. 22, 1900, Secretary to General Superintendent, Winnipeg; Sept. 22, 1900, to Feb. 1, 1901, secretary to Superintendent, Fort William, Ont.; Feb. 1, 1901, to June 1, 1902, chief clerk, Superintendent's office, Cranbrook, B.C.; June 1, 1902, to Feb. 15, 1904, chief clerk and accountant, General Superintendent's office, North Bay, Ont.; Feb. 15, 1904, to Mar. 1, 1907, chief clerk, General Superintendent's office, Winnipeg; Mar. 1 to June 1, 1907, chief clerk, Assistant General Manager's office, Winnipeg; June 1, 1907, to Dec. 1, 1908, Superintendent, Nelson, B.C.; Dec. 1, 1908, to Apr. 1, 1912, Superintendent Car Service, Western Lines, Winnipeg; Apr. 1, 1912, to July 15, 1913, General Superintendent, Manitoba Division, Winnipeg; July 15, 1913, to Dec., 1914, Gen-

eral Superintendent, Alberta Division, Edmonton, Alta.; Dec., 1913, to Oct. 15, 1918, Assistant General Manager, Western Lines, Winnipeg.

Rt. Hon. Lord Shaughnessy, K.C.V.O., who has retired from the Presidency of the C.P.R., but who retains the position of Chairman of the company, was born at Milwaukee, Wis., Oct. 6, 1853, and entered railway service in July, 1869, since when he has been, to Jan., 1879, in Purchasing Department, Chicago, Milwaukee & St. Paul Rd.; Jan., 1879, to Oct., 1882, General Storekeeper, same road; Oct., 1882, to Jan., 1884, General Purchasing Agent, C.P.R., Montreal; Jan., 1884, to Sept., 1885, Assistant to General Manager; Sept., 1885, to Sept., 1889, Assistant General Manager; Sept., 1889, to June 24, 1891, Assistant President; June 24, 1891, to June 12, 1899, Director and Vice President; June 12, 1899, to Oct. 15, 1918, President, C.P.R., and from May 9, 1910, also Chairman of the company. He was a delegate to the International Railway Congress in 1905, and was knighted by King Edward in 1901, and created a Knight Commander of the Royal Victorian Order in 1907. He is a Knight of Grace of the Order of St. John of Jerusalem, and holds the decoration of the Order of the Sacred Treasury of Japan, of the second class. He was created a baron of the United Kingdom, Jan. 1, 1916, with the title of Baron Shaughnessy of Montreal, Canada, and of Ashford, Ireland.

Alfred Price, who has been appointed General Manager, Eastern Lines, C.P.R., Montreal, was born at Toronto, Dec. 6, 1861, and started work in 1875, as messenger, Montreal Telegraph Co., Toronto. He entered railway service in Sept., 1879, since when he has been, to 1881, operator and clerk, Credit Valley Ry.; 1881 to 1882, car accountant, same road, Toronto. He remained with the C.P.R. when that company took over the Credit Valley Ry., and from 1882 to 1884 was operator and relief dispatcher, Toronto; 1884 to July, 1888, dispatcher, Toronto; July, 1888, to May, 1896, car distributor, Toronto; May, 1896, to Aug., 1898, car distributor and Chief Dispatcher, Toronto; Aug., 1898, to May, 1901, Superintendent, Toronto; May, 1901, to Sept., 1902, Superintendent, Districts 8 and 9, Toronto; Sept., 1902, to May, 1903, Superintendent, Districts 10 and 11, Toronto; May, 1903, to 1905, Superintendent, Fort William, Ont.; 1905, to Feb., 1907, Superintendent of Transportation, Western Lines, Winnipeg; Feb. to Dec., 1907, General Superintendent, Central Division, Winnipeg; Dec., 1907, to July, 1910, General Superintendent, Western Division, Calgary, Alta.; July, 1910, to July, 1914, General Superintendent, Alberta Division, Calgary, Alta.; July, 1913, to Oct. 15, 1918, Assistant General Manager, Eastern Lines, Montreal.

Malcolm H. MacLeod, who has been appointed Vice President in charge of construction, maintenance and operation, all lines, Canadian Northern Ry., Toronto, was born in Skye, Invernesshire, Scotland, July 13, 1857. His railway record is as follows: 1877, chainman, Victoria Ry., Ont.; 1879 to 1880, rodman and leveller, Credit Valley Ry.; 1881, transitman location surveys, Ontario & Sault Ste. Marie Ry.; 1882, resident engineer, construction Toronto & Ottawa Ry.; 1883 to 1885, assistant engineer, construction Lake Superior Section C.P.R.; 1886, on location and construction C.P.R. lines east of Montreal; 1887, on construction C.P.R., Sault Ste. Marie branch; 1888 to 1889, locating engineer, and in charge of construction, Windsor division, C.P.R.; 1890, locating engineer, Calgary & Edmonton Ry.; 1891, revision surveys C.P.R. and locating Niagara Falls, Park & River Ry.; 1892, revision surveys C.P.R., Chalk River to Sudbury; 1892 to 1895, Chief Engineer Lake Temiscamingue Colonization Ry.; 1896, division engineer, construction, Montreal & Ottawa Short Line, C.P.R.; 1897 to 1900, locating engineer, assistant chief Superintending Engineer, and Chief Engineer and Superintendent, Crows Nest Branch, C.P.R.; May, 1900, to 1907, Chief Engineer, and from 1907 to Oct., 1918, General Manager and Chief Engineer, Western Lines, Canadian Northern Ry., Winnipeg.

Sir George Bury, who has resigned the Vice Presidency of the C.P.R., was born at Montreal, Mar. 6, 1886, and entered C.P.R. service in 1883, since when he has been, to 1887, clerk in Purchasing Department, and in General Manager's office; 1887 to 1889, secretary to Vice President, and afterwards to President; 1889 to Mar., 1890, acting Superintendent, Sleeping, Dining and Parlor Car Service; Mar., 1890, to Sept., 1899, successively, Assistant Superintendent, Chalk River, Ont., and Superintendent, North Bay, Ont.; Sept., 1899, to Feb., 1901, Superintendent, Fort William, Ont.; Feb., 1901, to Feb., 1902, Superintendent, Crowsnest Pass Line, Cranbrook, B.C.; Feb. to May, 1902, Assistant General Superintendent, Lake Superior Division, North Bay, Ont.; 1905 to Feb., 1907, General Superintendent, Central Division, Winnipeg; Feb., 1907, to Mar. 1, 1908, Assistant General Manager, Western Lines, Winnipeg; Mar. 1, 1908, to Oct., 1911, General Manager, Western Lines, Winnipeg; Oct., 1911 to Dec., 1913, Vice President and General Manager, Western Lines, Winnipeg; Dec. 1912, to Dec., 1914, Vice President in charge of Western Lines, Winnipeg; Dec., 1914, he was appointed Vice President of the Company, Montreal, and also elected a director and member of the executive committee. He was created a Knight Bachelor on the recommendation of the British Prime Minister, June 3, 1917, subsequent to a visit to Russia in connection with the proposed improvement of railway lines there. This work was nullified later by the revolution, which commenced while he was in Petrograd.

Allan Purvis, who has been appointed General Superintendent, Ontario District, C.P.R., Toronto, was born at Batavia, Java, June 29, 1878, and was educated at the Merchant Taylor's School, Liverpool, Eng. He entered C.P.R. service in Vancouver, B.C., at an early age, and was from Aug., 1890, to Feb., 1891, messenger, Stores Department; Feb. to Nov., 1891, storesman; Nov., 1891, to Sept., 1892, junior clerk, Vancouver, B.C.; Sept., 1892, to Aug., 1893, timekeeper, Donald, B.C.; Aug., 1893, to Oct., 1894, clerk, Vancouver, B.C.; Oct., 1894, to Mar., 1895, assistant storekeeper, North Bend and Kamloops, B.C.; Mar., 1895, to Sept., 1896, clerk and operator, Car Service and Fuel Department, Vancouver, B.C.; Sept., 1896, to Jan., 1899, Chief Clerk, Fuel Department, Vancouver, B.C.; Jan., 1899, to Feb., 1908, chief clerk to General Superintendent, Pacific Division, Vancouver, B. C.; Feb. to Nov., 1908, Superintendent, District 4, Central Division, Souris, Man.; Nov., 1908, to Oct., 1909, Superintendent, District 3, Pacific Division, Nelson, B.C.; Oct., 1909, to Oct., 1911, Local Manager, Fraser Valley Branch, British Columbia Electric Ry., Vancouver, B.C.; May, 1912, to Feb., 1915, Manager of Interurban Lines, same company, New Westminster, B.C.; May, 1915, to May 1, 1916, Superintendent, District 2, Ontario Division, C. P.R., London, Ont.; May 1 to Nov. 1, 1916, General Superintendent, Eastern Division, C.P.R., Montreal; Nov. 1, 1916, to Feb. 1, 1917, acting General Superintendent, Ontario District, Toronto; Feb. 1, 1917, to Oct. 15, 1918, General Superintendent, Quebec District, Montreal.

L. C. Fritch, who has been elected Vice President, the Chicago, Rock Island & Pacific Ry. Co., and also Vice President, Minneapolis & St. Louis Rd. Co., with office at La Salle St. Station, Chicago, was born at Springfield, Ill., Aug. 11, 1869. He took a course in civil engineering at the University of Cincinnati, and subsequently a law course, and was admitted to the Ohio bar in 1899. He entered railway service in 1884 as supervisor's assistant, Ohio & Mississippi Ry., and was from Jan. 1, 1886, to Oct., 1892, Assistant Engineer, same road; Oct., 1892, to Nov. 1, 1893, Engineer, Maintenance of Way, same road; and was also Construction Engineer in charge of construction, Cincinnati & Bedford Ry.; Nov. 1, 1893, to Sept. 1, 1899, Division Engineer, Baltimore & Ohio Southwestern Rd., which absorbed the Ohio & Mississippi Ry.; Sept. 1, 1899, to Nov., 1902, Superintendent, Mississippi Division, same road; Feb., 1904, to Mar. 1, 1905, engaged on special work, Illinois Central Rd., Chicago, Ill.; Mar. 1, 1905, to Nov., 1906, Assistant to General Manager, same road; Nov., 1906, to Mar. 1, 1909, Assistant to President, same road; Mar. 1 to Nov. 15, 1909, Consulting Engineer, same road; Nov. 15, 1909, to Mar. 31, 1914, Chief Engineer, Chicago Great Western Rd., Chicago, Ill.; Mar. 31, 1914, to Aug., 1915, Assistant to President, Canadian Northern Ry., Toronto, and from Aug., 1915, to June 1, 1917, General Manager, Eastern Lines, same road, Toronto; June 1, 1917, to Oct., 1918, General Manager, Seaboard Air Line Ry., Norfolk, Va.

G. W. Vaux, formerly General Passenger Agent, G.T.R., Montreal, and for several years General Agent, Union Pacific Rd., Chicago, has ceased to hold the latter position, the office having been discontinued. He has been appointed General Manager, Zeigler Co., Zeigler, Ill.

Grain Inspected at Western Points.

The following figures compiled by the Trade and Commerce Department's Bureau of Statistics, show the number of cars of grain inspected on railways at Winnipeg and other points in the Western Division, for Sept., 1918 and 1917:

	Sept. 1918 bush.	Sept. 1917 bush.
C.P.R.	5,260	9,794
C.N.R.	4,122	6,619
G.T.P.R.	811	1,897
G.N.R. (Duluth)	196	196
Totals	10,389	18,506

Curtail Railway Travelling.—A Winnipeg press dispatch of Oct. 23 credits E. W. Beatty, President, C.P.R., with stating there that he wished to urge upon the public the advisability of curtailing all unnecessary railway travelling during the prevalence of the influenza epidemic. The eastern section of the C.P.R. has already been very seriously handicapped, many of the employes being down with the disease, he said, and concluded: "It may be necessary to reduce the number of passenger trains. This will mean very much closer packing of passengers in cars. No person, not absolutely obliged to travel, should increase the burden already being borne by the railway service."

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ADVERTISING RATES furnished on application.

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

TORONTO, CANADA, NOVEMBER, 1918.

PRINCIPAL CONTENTS.

Canada's Paramount Duty.

Canada is calling on her people to over subscribe the Victory Loan of 1918 as an imperative duty that cannot and must not be shirked. The reasons are plain to everyone.

Great Britain, having borne tremendous burdens, cannot be expected to finance her war purchases in this country. The United States is perfecting a vast war machine. Her financial resources are required for that purpose. It is necessary, therefore, that Canada should raise within her borders the funds required, not only to carry on our normal and war activities, but also to advance substantial sums to Great Britain for her purchases here.

While in the United States the people have been asked to subscribe a Liberty Loan every few months, we, in Canada, have not been asked to subscribe a war loan since Nov., 1917. This is an enormous advantage in every way. The long respite from war loan activities has enabled the 1917 Victory Loan to be splendidly absorbed and distributed, and has allowed business to proceed without the temporary halt which war loan issues usually bring.

The maintenance of the market price of the 1917 Victory Loan at the issue price, and even higher, shows the gilt edged nature of the security and furnishes a record in war finance. The purchase of war loan bonds is a duty; a duty that ensures profit.

Canadian Railway and Marine World has no hesitation in urging its readers to put every dollar they can into the Victory Loan now offered. Its proprietors have subscribed, to the utmost of their ability, to all the Canadian war loans which have been issued, including the present one. Altogether outside of the patriotic duty that devolves on every citizen, they believe that there is no other security available which offers so absolutely safe an investment and at such a satisfactory rate of interest.

Canadian Northern Ry's Montreal-Toronto Passenger Service.

The C.N.R.'s temporary passenger station on Lagauchetiere St., Montreal, which was described and illustrated in Canadian Railway and Marine World for October, and also the Mount Royal Tunnel having been completed, through passenger service between Montreal and Toronto via Ottawa was started Oct. 20, when the first train eastbound left Toronto at 11 p.m., having on board R. C. Vaughan, Assistant to the President, and a number of other officials. The first through train westbound left Montreal Oct. 21, at 8.15 a.m.

The service consists of two trains a day each way, as follows:—

	Westbound.	
Leave Montreal	8.15 a.m.	6.15 a.m.
Arrive Ottawa	12.15 p.m.	10.15 p.m.
Leave Ottawa	12.45 p.m.	10.45 p.m.
Arrive Toronto	9.45 p.m.	7.30 p.m.
	Eastbound.	
Leave Toronto	10.00 a.m.	11.00 p.m.
Arrive Ottawa	6.30 p.m.	7.30 p.m.
Leave Ottawa	7.00 p.m.	8.00 a.m.
Arrive Montreal	11.00 p.m.	12 noon.

The trains leaving Montreal and Toronto in the evening run daily. Those leaving both places in the morning do not run on Sundays. The evening train from Montreal for Toronto carries a standard sleeping car, and a cafe parlor club car, for Toronto, and at Ottawa takes on another standard sleeping car and a compartment sleeping car. The night train from Toronto carries standard sleeping and compartment sleeping cars for Ottawa, and a cafe parlor club car and a standard sleeping car for Montreal. The trains leaving Montreal and Toronto in the morning carry through parlor and dining cars.

The distance by the new route is: Montreal to Ottawa, 113.75 miles; Ottawa to Toronto, 257.4 miles. Total, 371.15 miles. The other companies' distances are: G.T.R., 333.04 miles; C.P.R., via Peterborough, 338.5 miles; C.P.R., via Lake Ontario Shore Line, 340.5 miles.

Between Montreal station and Cartierville, 7.3 miles, including the tunnel section, the trains are hauled by electric locomotives.

Unconfirmed Press Reports.

That Hon. J. D. Reid, Minister of Railways, is to retire from the Dominion Government, on account of ill health, and that he will be appointed a senator.

That Hon. Clive Pringle will resign from the Senate, and be appointed General Counsel, Canadian Government Railways.

That A. W. Campbell, ex-Deputy Minister of Railways and Canals, Ottawa, now on a year's leave of absence, will be appointed Commissioner for Good Roads, for the Dominion Government, with the rank of a deputy minister.

That the Board of Railway Commissioners is considering the question of ordering table d'hote meals to be served on railway dining cars at fixed prices, as the U.S. Railroad Administration has done.

Canadian Government Railways Construction, Betterments, etc.

Prince Edward Island Ry.—See under "Standardizing the P.E.I. Ry.," on another page of this issue.

Halifax Ocean Terminals.—We are officially advised that the construction of certain works and buildings of a more or less temporary character at the Halifax Ocean Terminals is progressing favorably, and that it is expected that these will be completed by Dec. 1. Following are the works in progress:—Temporary station, mail, baggage, express and commissariat buildings, in the shape of an L, the station proper being 174 x 80 ft., and the baggage, mail, express and commissariat part being 240 x 50 ft.; a car cleaning shop, stores and ice house building, 382 x 51 ft. The passenger tracks in connection will have storage capacity for 170 cars, and the freight tracks will have storage capacity for 730 cars. In addition, there will be a team yard which will have tracks for 50 cars, for loading and unloading. Water and gas systems are being provided, and in the passenger yards there will be installed the regular gas, air and heating pipes.

Sackville to Cape Tormentine.—The work of replacing ties and reballasting this branch line is reported to have been completed during the summer.

Tenders for new buildings.—Tenders are under consideration for the erection of a wooden stores building at Campbellton, N.B., and for the erection of a wooden car shop at Edmundston, N.B.

Long Wharf, St. John.—Work is reported to have been started by D. C. Clark on repairs to the Long Wharf, at St. John, N.B., on which the Intercolonial Ry. has tracks and a shed. The work is being done in preparation for the heavy winter traffic. (Oct., pg. 437.)

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 should be glad to be favored in this respect.

Canadian Engineers at Cambrai.—The Canadian Press special correspondent with the Canadian forces at the front in cabling on Oct. 10 about the capture of Cambrai, said:—"Among the brilliant episodes of the final assault was the gallant act of a captain of Canadian Engineers who comes from Winnipeg. He was reconnoitering, early yesterday morning, the crossing of the Scheldt River, which it was of the utmost importance we should make in good order to close our northern end of the pincers down upon the southern end created by the fine advance of the Imperial troops south of Cambrai. The river here has three distinct arms, traversed by three bridges. He found that the enemy had destroyed the first bridge and were about to destroy the second. Unaided, he charged them, shooting down five boches and saving the bridge....The Canadian Engineers established a pontoon bridge over the canal at 6 o'clock."

Canadian Government Railway Employes on active service.—Out of the approximately 20,000 employes in Canadian Government Railways service, 1,630 have enlisted in the Canadian Expeditionary Forces, a percentage of 8.15. Of these, 11 died while training, 78 were killed in action and 5 were posted as missing.

Canadian Pacific Ocean Services, Ltd., has been conducting numerous trips on the Avon at Bristol, and the Mersey at Liverpool, Eng., for wounded soldiers, which have been much enjoyed by those taking part in them. The arrangements for taking the men to and from the company's vessels are made by the enquiry bureau, and sports are conducted on board and prizes given. A band accompanies the men, and everything is done to make the trip thoroughly enjoyable. The whole arrangements are supervised by Major H. Maitland Kersey, D.S.O., the company's Managing Director.

Canadian Railway Troops, drafts 157 and 169 from Niagara on the Lake, Ont.; draft 173 from Toronto, and draft 174 from St. John, N.B.; and Engineers, drafts 158 and 172 from Brockville, Ont., have arrived safely in England.

Canadian Railway Troops' Work.—A Canadian Association Press dispatch of Oct. 1 says:—"In the fighting which followed the fall of the Drocourt system on the Western front, the motor and horse ambulances had more than they could handle at times. So the Canadian railway troops rushed up flat cars, loaded the wounded on them and made several trips to the field ambulance stations until the congestion was reduced. Steel laying and maintenance gangs did temporary duty as stretcher bearers from the regimental aid posts and advanced dressing stations to the railway cars. Meanwhile there was no interference with the scheduled service of work and supply trains. At present light railways and tramways are threaded through different points close to the Nord Canal, and are saving the use of a great deal of motor and horse transport. So efficient has been the service rendered in the Arras area, that the army and corps commanders have expressed their thanks to the Canadian railway troops, and been generous with encomiums."

The Canadian Railway Troops are reported to have built over 100 miles of line, extending back as far as 10 miles, since Aug. 21.

The Timiskaming & Northern Ontario Railwaymen's Patriotic Association had, up to the last report, contributed $92,748.41 to the Canadian Red Cross and Canadian Patriotic Association funds.

PERSONAL NOTES.

Major H. G. Barber, Edmonton, Alta., of the Canadian Railway Troops, has been awarded the Distinguished Service Order for conspicuous gallantry and devotion to duty while supervising light railways. Under his supervision valuable stocks of light railway material and coal were salved, maintenance work was carried out, and railway lines patrolled up to the last possible moment. The good work performed by his men was largely due to his coolness, perseverance and inspiring example, while frequently under fire night and day.

Corporal G. E. Bayliss, Canadian Overseas Railway Construction Corps, has been awarded the Distinguished Conduct Medal, for conspicuous gallantry and devotion to duty in maintaining and repairing a track, which was continuously under shell fire. It was largely due to his skill and untiring energy that nine railway mounted guns and howitzers were successfully removed. He controlled his men with great coolness, working continuously for 45 hours.

Lieut. A. J. Easterbrook, reported wounded in the leg, was, prior to going overseas, on the C.P.R. office staff at Moose Jaw, Sask. He enlisted on the outbreak of the war, and went to France as a sergeant in the Princess Patricia of Connaught's Light Infantry. He was wounded in the neck with shrapnel last year, and this year was awarded a commission on the field.

Acting Sergeant W. G. Geron, Railway Troops, has been awarded the Distinguished Conduct Medal for conspicuous gallantry and devotion to duty in emergency work on light railway lines in forward areas under intense hostile fire. On one night he personally supervised the repair of 43 shell breaks, requiring nearly 1,400 ft. of new steel, and kept the light railway lines open for traffic. He was in charge of a party working for three hours in gas masks, sending forward urgently required ammunition. His courage and example in these and other instances were an inspiration to those working with him.

Lieut. R. S. Johnston, a civil engineer, loaned by the U.S. Government for duty in connection with the erection of naval air stations on the Canadian coast, died at the residence of Admiral Sir C. E. Kingsmill, Ottawa, Ont., Oct. 14, from influenza.

Lieut.-Col. W. B. Kingsmill, D.S.O., who went overseas in command of the 123rd Battalion, about two years ago, has returned home on three months leave. He is a member of the firm of Saunders, Torrance & Kingsmill, Solicitors in Canada for the Michigan Central Rd.

Capt. Albert H. Kendall, who has been awarded the Military Cross, for superintending evacuation under heavy fire and keeping lines running until the last moment, went overseas early in 1917, as Captain, No. 1 Section, Skilled Railway Employes, and is now with the 58th Broad Gauge Operating Company, British Expeditionary Force in France. He was born at Aspatria, Cumberland, Eng., Apr. 4, 1878, and completed his apprenticeship in the Canada Atlantic Ry. shops at Ottawa, Ont., in June, 1910, since when he has been, to Mar., 1902, machinist, C.P.R., Revelstoke, B.C.; Mar., 1902, to Jan., 1903, Locomotive Foreman, C.P.R., Nakusp, B.C.; Jan. to Dec., 1903, General Foreman, C.P.R., Revelstoke, B.C.; Dec., 1903, to Dec., 1904, Locomotive, G.T.R., London, Ont.; Dec., 1904, to Dec., 1913, leading hand, General Eercting Foreman, Angus Shops, C.P.R., Montreal; Dec., 1913, to Aur., 1915, General Foreman, C. P.R., North Bay, Ont.; Apr., 1915, to Aug., 1916, Assistant Works Manager, Locomotive Shop, Angus Shops, C.P.R., Montreal; Aug., 1916, to Jan., 1917, Master Mechanic, Ontario District, C.P.R., Toronto.

Lieut.-Col. Hon. Angus McDonnell, of the Canadian Railway Troops, and formerly of Grant, Smith & McDonnell, Ltd., railway and general contractors, Vancouver, B.C., has been made a Companion of the Order of St. Michael and St. George.

Corporal W. S. McNab, reported to have been wounded a second time, is a son of W. McNab, Chairman, Valuation Committee, G.T.R., Montreal. Two other sons are in active service in France.

Sergeant J. A. McPhail, Railway Troops, has been awarded the Distinguished Conduct Medal. Alone under heavy shell fire he patrolled his district and repaired many blowouts. Owing to his good work the track was kept open and passage allowed for 26 trains containing ammunition and other supplies.

Edmond George Moorhead, a recent recruit in the Royal Air Force, died at the Base Hospital, Toronto, Oct. 14. He was born Feb. 10, 1896, and entered C.P.R. service as junior clerk, Superintendent's office, London, Ont., Apr. 1, 1912, and after various changes was appointed secretary to the Vice President (Sir George Bury), May 17, 1917, and on July 1, 1918, was appointed assistant chief clerk, Vice President's office, and was given leave of absence, Oct. 1, for military service.

Major E. F. Pullen, Haileybury, Ont., of the Canadian Railway Troops, has been awarded the Distinguished Service Order, for energy and devotion to duty displayed while commanding his company throughout the operations, which were a conspicuous example to his men, whom he has led, and whose work he has organized in the forward area. On two different occasions he rallied considerable numbers of stragglers from other units, and leading them back to the front, placed them again under their officers and warrant officers, and their services, when badly wanted, were instrumental in defeating the enemy. His complete disregard of personal safety had a most inspiring effect on his men, and his intelligent dispositions, often under heavy fire, enabled him to keep his line open as long as it was required, and much material was saved.

C. E. Payne, chief clerk, Freight Department, Canadian Northern Ry., Fort

William, Ont., was presented with a gold wrist watch by the local staff recently, on leaving to take up military service under the United States draft regulations.

Colonel C. W. P. Ramsey, C.M.G., formerly Engineer of Construction, Eastern Lines, C.P.R., Montreal, was married in London, Eng., Sept. 19, to Miss Dorothy Jackson, youngest daughter of Sir John Jackson, M.P., of Sir John Jackson, Ltd., and Sir John Jackson (Canada), Ltd., general contractors. Col. Ramsey went overseas in 1915 in command of the Canadian Overseas Railway Construction Corps, with the rank of Lieutenant-Colonel, and was created a Companion of the Order of St. Michael and St. George in June, 1916, for services in the field. He was recently promoted to Colonel, and seconded for duty with the War Office.

Private Thos. Robertson, who enlisted with the University contingent of the 196th Battalion, in Apr., 1916, and later transferred to the Canadian Mounted Rifles, has died from wounds. Before enlisting he had been in Canadian Northern Ry. service since 1913, having been station ticket clerk at Saskatoon, Sask., city ticket clerk, Saskatoon, and from Nov., 1915, chief clerk to District Passenger Agent there.

C. Spencer, Duncan, B.C., formerly a locomotive man on the C.P.R., is mentioned as the hero of the following story: Stealing out across No Man's Land, without orders, he climbed aboard a dead German locomotive attached to 16 cars of ammunition, and while enemy sentries paced back and forth, he got up steam, gave the locomotive a few kicks back to allay suspicion, and then threw her over, opened the throttle wide, and steamed away to the British lines, and was well inside before the surprised Germans realized what had happened. It is said that he was "penalized" by the commanding officer, with a commission as lieutenant.

Brigadier-General Stewart, formerly of Foley Bros., Welch & Stewart, contractors, Vancouver, has been appointed Director-General of Construction in the British Army, with supreme command over all railways, docks, etc. The addition of the command over the docks in France will entail a great deal of extra labor and responsibility.

Company Sergt.-Major S. Underwood, Railway Operating Company, has been awarded the Distinguished Conduct Medal. On several occasions he displayed great gallantry in the performance of his duties, setting a fine example to others and rendering conspicuous service. He saved much railway material and ammunition when he had to pass with a locomotive within a short distance of several dumps on fire, from which a large number of shells were exploding. On one occasion he ran his locomotive into some forward gun positions and remained there under heavy shell fire, assisting to pull out and save some heavy guns with their ammunition and equipment. He performed valuable service with complete unconcern for his personal safety.

Major H. A. Wood, M.C., of the Royal Air Force, who is establishing a camp at Collinstown, Ireland, is a son of D. O. Wood, formerly of the Allan Line and C.P.R. service, now Superintendent Inland Transportation, British Ministry of Shipping (Canada). He graduated from the School of Practical Science, Toronto University, in Apr., 1915, with the degree of B.A.Sc., and entered the Toronto Harbor Commission's service in the same year, under the Chief Engineer. He received a commission as lieutenant in the Corps of Guides and went overseas in Nov., 1915, joining the Royal Flying Corps in England, where he received his training. He was later selected as a flying patrol man and sent to France in June, 1916, and began his work in the Somme offensive on July 1, 1916. He was made a captain on the field in Nov., 1916. He was awarded the Military Cross in June, 1917, for good services in France, having, after nine months of flying, many enemy machines to his credit, and several narrow escapes. In that year, he was transferred to duty in the United Kingdom, having passed through his service in France without a scratch, and with nerves unshattered. On account of his knowledge of the airplane, and being a science graduate, he was selected to lecture in instruction camps to young officers, on the various subjects connected with the flying course, and he also designed a strengthener for the substructure of certain battle planes, which was adopted by the Air Board, and is now being used. He was promoted to the rank of Major in March, 1918, just prior to his 24th birthday, and specially selected to establish the first Royal Air Force training camp in Ireland, the one on which he is now engaged being a second one.

Wages of Clerical, Station and Similar Forces on Railways.

In reference to the Canadian Railway War Board's decision to put into effect, as from Sept. 1, rates of pay and conditions as outlined in supplement 7 to general order 27 of the Director General of the United States Railroad Administration, on the basis of the interpretations published in full on pages 478 to 480 of this issue, the board issued the following circular Oct. 17 to railways operating in Canada:—

Supplementing the board's circular of September 30, embodying supplement 7, to general order 27 and interpretations thereto, the following additional interpretations have been obtained and will govern in applying the provisions of supplement 7 on railways in Canada, effective as from Sept. 1, 1918.

Article 1.

Question 1—Does article 1, clause A, apply to all clerical forces to which minimum of $87.50 a month is granted? Answer—Yes. (Note: Owing to the inequalities and probable dissatisfaction arising from application of $87.50 minimum to employes new to the service, such as beginners at stenography, comptometer operators, ticket assorters, and junior clerks, as well as to the more experienced and competent employes to whom the same rate at present applies, it is anticipated that a revision of classification will shortly take place, providing for the establishment of an "apprentice" class, in which will be included positions such as those specifically mentioned above and to which a lower rate will apply. It is anticipated that the proposed "apprentice clerk" classification will provide for a reasonable age limit and that $25 per month increase, without the $87.50 minimum, will be awarded. It is suggested that employes who are concerned in the anticipated reclassification be informed as to what is contemplated, with a view to avoiding possible difficulty when the reductions are made effective.)

Question 2—Under what clause should red cap porters be considered? Answer—Article 1, clause C.

Article 2.

Question 3—Is it permissible to retain stationary engineers, "steam" firemen and power house oilers on other than monthly basis? Answer—Hourly rates may be continued, provided established minima are paid.

Article 5.

Question 4—Is it proposed to give any further consideration to question of overtime worked by employes named in this article, though working alongside men provided for by supplement 4? Supplement 7 allows pro rata for 9th and 10th hours, whereas supplement 4 provides time and a half over eight hours worked? Answer—Not at present. There is a possibility of further consideration.

Article 6.

Question 5—Are parlor, sleeping and dining car employes, conductors, porters, stewards, waiters, cooks and help intended to be provided for by supplement 7? Answer—No, general order 27.

Question 6—Is station restaurant help intended to be provided for by supplement 7? Answer—No, general order 27.

Article 10.

Question 7—Is it the intent to grant $25 a month increase in salaries in effect Jan. 1, 1918, irrespective of reduction of hours, as result of application article 10? The text of supplement does not make clear how this is applied to hourly rated employes? Answer—Yes, irrespective of hours previously worked, for an 8-hour day, but not to produce a rate in excess of the maximum given.

Articles 12 and 13.

Question 8—Is it the intent that these articles be literally and generally applied? Answer—Yes; in matter of investigations, absolutely yes: in matter of seniority, generally speaking, yes. Clerks themselves were in doubt what they wanted, so can give no definite opinion at present.

Interpretations embodied in circular of Sept. 30, 1918, which conflict with the foregoing are hereby cancelled.

In view of the present labor situation in some parts of Canada it is highly desirable that the railways place in effect without delay the provisions of supplement 7, with interpretations which have been provided, and that the employes concerned be informed promptly, by posting of notices, or other suitable methods, that such action is being taken.

Pay for back time, due under the provisions of supplement 7, which was not included in payrolls already completed, should be arranged for in preparation of those for the second half of the current month where this can be done, or as soon thereafter as possible.

Transportation and the cost of living.—Under the War Measures Act, 1914, with a view of preventing undue enhancement of the cost of living, the Dominion Government issued in Nov., 1916, orders 2777 and 2957, in which certain defects have been discovered in the course of administration. By an order dated Oct. 4, these two orders are rescinded, and a new one issued which provides among other things that: "No person shall conspire, combine, agree or arrange with any other person to limit the facilities for transporting.... any necessary of life."

A. W. Smithers, Chairman of the Board, G.T.R., is expected in Montreal shortly to make his annual inspection trip over the line. It is reported that during his visit he will discuss with the Dominion Government the question of the acquirement of the G.T.R. and the G.T. Pacific Ry. for the Dominion.

Transportation Appointments Throughout Canada.

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

Canadian Government Railways.—C. F. BURNS, Auditor of Disbursements, Moncton, N.B., died there, Oct. 16.

Canadian Northern Ry.—M. H. MacLEOD, heretofore General Manager and Chief Engineer, Western Lines, Winnipeg, has been appointed Vice President, in charge of operation, construction and maintenance, all lines. Office, Toronto.

G. R. EDGLEY, heretofore General Agent, Quebec, Que., has been appointed acting Superintendent, Saguenay Division, Quebec District, vice J. H. Davidson, Superintendent, deceased. Office, Quebec, Que.

J. J. NOONAN, heretofore Assistant to General Agent, Quebec, Que., has been appointed acting Freight Agent there.

HUGH MACDONELL, who was a member of the Canadian Expeditionary Force, and a prisoner of war until he escaped, has been appointed Right of Way and Claims Agent, Eastern Lines, vice J. Barbour, deceased. He reports to the General Solicitor. Office, Toronto.

A. E. WARREN, heretofore Assistant to General Manager, Western Lines, has been appointed General Manager, Western Lines. Office, Winnipeg.

W. C. POTTS has been appointed inspector, Sleeping and Dining Cars and News Service, Winnipeg.

F. TAYLOR, heretofore Sleeping and Dining Car Agent, Edmonton, Alta., is reported to have been appointed Sleeping and Dining Car Agent, Winnipeg.

E. G. WICKERSON, heretofore Passenger Agent, Prince Albert, Sask., has been appointed City Ticket Agent, Saskatoon, Sasfl, vice W. A. Vanalstine, transferred.

W. A. VANALSTINE, heretofore City Ticket Agent, Saskatoon, Sask., has been appointed Travelling Passenger Agent there, vice E. Bower, enlisted for active military service.

W. F. WOODS has been appointed Passenger Agent, Prince Albert, Sask., vice E. G. Wickerson, transferred.

L. BARNES has been appointed Sleeping and Dining Car Agent, Edmonton, Alta., vice F. Taylor, transferred.

J. G. CAMERON has been appointed Trainmaster, Calgary and Hanna Subdivisions, vice R. J. Kelly, transferred. Office, Hanna, Alta.

R. J. KELLY, heretofore Trainmaster, Calgary and Hanna Subdivisions, Hanna, Alta., has been appointed Trainmaster, Battle River, Brazeau, Strathcona and Alliance Subdivisions, vice S. S. Foley, assigned to other duties. Office, Big Valley, Alta.

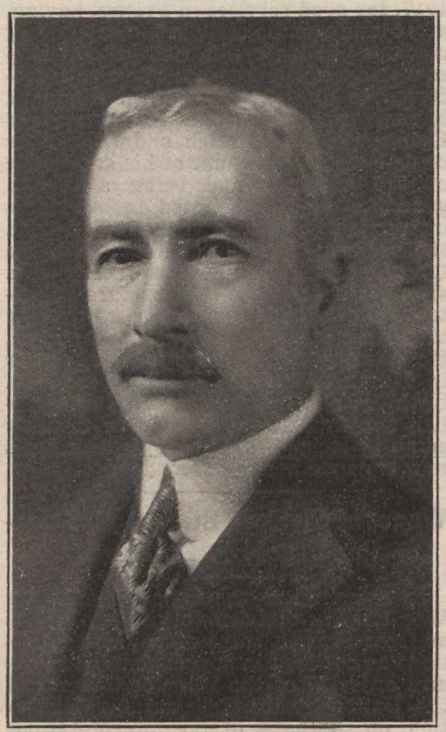
S. S. FOLEY, heretofore Trainmaster, Big Valley, Alta., has been appointed agent, Richdale, Alta.

L. McCUTCHEON has been appointed Travelling Freight Agent, Vancouver, B.C.

C. C. LABRIE, Accountant, Construction Department, Vancouver, has been appointed also Purchasing Agent there, vice J. H. Hoare, resigned.

A number of changes are about to be made in the accounting and auditing departments, among officials at Toronto and Winnipeg, but particulars of them were not available up to Oct. 31.

Canadian Pacific Ry.—The Right Hon. LORD SHAUGHNESSY, K.C.V.O., having resigned from the Presidency, has been elected Chairman of the Company. His previous title was President and Chairman of the Company.



M. H. MacLeod
Vice President, Operation, Construction and Maintenance, Canadian Northern Railway.

Allan Purvis,
General Superintendent, Ontario District, Canadian Pacific Railway.

E. W. BEATTY, K.C., heretofore Vice President and General Counsel, has been elected President, vice Lord Shaughnessy, resigned. Office, Montreal.

GRANT HALL, heretofore Vice President and General Manager, Western Lines, Winnipeg, has been appointed Vice President, with jurisdiction over all lines, vice Sir George Bury, resigned. Office, Montreal.

A. D. MacTIER, heretofore General Manager, Eastern Lines, has been appointed Vice President in charge of lines east of Port Arthur, Ont., reporting to the Vice President, Grant Hall. Office, Montreal.

D. C. COLEMAN, heretofore Assistant General Manager, Western Lines, has been appointed Vice President in charge of lines west of Port Arthur, Ont., reporting to the Vice President, Grant Hall. Office, Winnipeg.

A. PRICE, heretofore Assistant General Manager, Eastern Lines, has been appointed General Manager, Eastern Lines, vice A. D. MacTier, promoted. Office, Montreal.

G. HODGE, heretofore Assistant to General Manager, Eastern Lines, has been appointed Assistant to Vice President, Eastern Lines. Office, Montreal.

W. J. ROBIDER, heretofore Master Car Builder, Central of Georgia Ry., Savannah, Ga., has been appointed General Master Car Builder, C.P.R., vice C. W. Van Buren, deceased. Office, Montreal.

W. J. PICKRELL, heretofore Assistant Superintendent, Farnham Division, Quebec District, Farnham, Que., has been appointed Master Mechanic, New Brunswick District, vice C. Gribbin, transferred. Office, St. John, N.B.

J. P. DOHERTY, heretofore chief clerk to Port Agent, Canadian Pacific Ocean Services, Ltd., Quebec, Que., has been appointed Travelling Freight Agent, C.P.R., vice J. E. Green, transferred.

J. M. WOODMAN, heretofore Superintendent, Montreal Terminals Division, Quebec District, Montreal, has been appointed General Superintendent, Quebec District, vice Allan Purvis, transferred. Office, Montreal.

K. F. NYSTROM, heretofore chief draftsman, Car Department, G.T.R., Montreal, has been appointed chief draftsman, Chief Mechanical Engineer's office, C.P.R., Montreal.

M. W. BARD, heretofore Assistant Superintendent, Farnham Division, Quebec District, was, on Oct. 1, appointed acting Superintendent, and subsequently W. J. UREN, heretofore Superintendent, Trenton Division, Ontario District, was appointed Superintendent, Farnham Division, Quebec District, vice J. B. Blair, transferred. Office, Farnham.

J. B. BLAIR, heretofore Superintendent, Farnham Division, Quebc District, Farnham, has been appointed Superintendent, Montreal Terminals Division, Quebec District, vice J. M. Woodman, promoted. Office, Montreal.

R. A. SEWELL, heretofore Assistant Superintendent, Trenton Division, Ontario District, has been appointed Assistant Superintendent, Montreal Terminals Division, Quebec District, vice R. W. Scott, promoted. Office, Montreal.

T. A. WILSON, heretofore Assistant Superintendent, Smiths Falls Division, Quebec District, has been appointed Superintendent, Smiths Falls Division, Quebec District, vice J. K. Savage, promoted. Office, Smiths Falls, Ont.

C. H. TOWLE, heretofore Assistant Superintendent, Brownville Division, New

Brunswick District, Brownville Jct., Me., has been appointed Assistant Superintendent, Smiths Falls Division, Quebec District, vice T. A. Wilson, promoted. Office, Smiths Falls, Ont.

ALLAN PURVIS, heretofore General Superintendent, Quebec District, Montreal, has been appointed General Superintendent, Ontario District, vice J. T. Arundel, who, the company very much regrets, has retired from the service. Office, Toronto.

J. K. SAVAGE, heretofore Superintendent, Smiths Falls Division, Quebec District, Smiths Falls, Ont., has been appointed Assistant General Superintendent, Ontario District. This is a new position. Office, Toronto.

H. B. STEVENS, heretofore Assistant Superintendent, Sudbury Division, Algoma District, Sudbury, Ont., has been appointed Assistant Superintendent, Havelock Division, Ontario District, vice R. G. Edwards, transferred. Office, Havelock, Ont.

R. W. SCOTT, heretofore Assistant Superintendent, Montreal Terminals Division, Quebec District, Montreal, has been appointed Superintendent, Trenton Division, Ontario District, vice W. J. Uren, transferred. Office, Toronto.

A. MAYNES, heretofore Division Master Mechanic, London Division, Ontario District, London, has been appointed Division Master Mechanic, Bruce Division, Ontario District. Office, Toronto.

V. A. G. DEY, heretofore Assistant Engineer of Construction, has been appointed Resident Engineer, Toronto Terminals, vice G. H. Davis, promoted.

R. G. EDWARDS, heretofore Assistant Superintendent, Havelock Division, Ontario District, Havelock, Ont., has been appointed Assistant Superintendent, London Division, Ontario District, vice F. S. Rosseter, transferred. Office, London, Ont.

C. GRIBBIN, heretofore Master Mechanic, New Brunswick District, St. John N.B., has been appointed Division Master Mechanic, London Division, Ontario District, vice A. Maynes, transferred. Office, London, Ont.

J. R. CASWELL has been appointed Engineer, London Division, Ontario District, vice J. M. Silliman, resigned to enter Delaware & Hudson Ry. service. Office, London, Ont.

F. S. ROSSETER, heretofore Assistant Superintendent, London Division, Ontario District, London, Ont., has been appointed Assistant Superintendent, Sudbury Division, Algoma District, vice H. B. Stevens transferred. Office, Sudbury, Ont.

C. MURPHY, heretofore General Superintendent, Manitoba District, Winnipeg has been appointed General Manager Western Lines. Office, Winnipeg.

C. E. STOCKDILL, heretofore Assistant to Vice President and General Manager, Western Lines, Winnipeg, has been appointed Assistant to Vice President Western Lines. Office, Winnipeg.

E. C. P. CUSHING, heretofore private secretary to the President (Lord Shaughnessy), Montreal, has been appointed Purchasing Agent, Winnipeg.

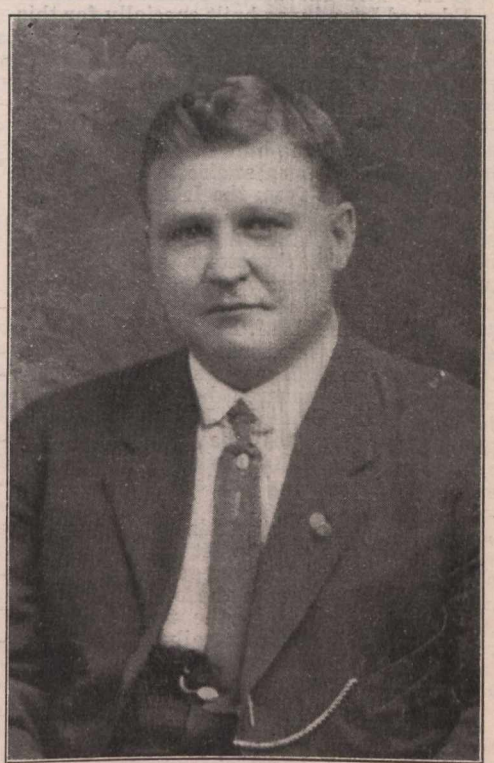
A. E. STEVENS, heretofore General Superintendent, Saskatchewan District Moose Jaw, has been appointed General Superintendent, Manitoba District, vice C. Murphy, promoted. Office, Winnipeg.

A. J. PENTLAND, heretofore Locomotive Foreman, Transcona, Man., has been appointed Locomotive Foreman, Regina, Sask., vice A. S. McDonald, transferred.

W. A. MATHER, heretofore Assistant General Superintendent, British Columbia District, Vancouver, has been appointed General Superintendent, Saskatchewan District, vice A. E. Stevens, transferred. Office, Moose Jaw.

GEO. A. WALKER will perform the duties of Manager of the Natural Resources Department, with the title of acting Manager, during the absence of P. L. Naismith, Manager.

G. M. Wilson,
Superintendent of Motive Power Shops, Grand Trunk Railway, Montreal.



C. H. Towle,
Assistant Superintendent, Smiths Falls Division, Quebec District, Canadian Pacific Railway.

C. A. COTTERELL, heretofore Superintendent, Medicine Hat Division, Alberta District, Medicine Hat, has been appointed Assistant General Superintendent, British Columbia District, vice W. A. Mather, promoted. Office, Vancouver.

C. S. MAHARG, heretofore Superintendent, Brandon Division, Manitoba District, Brandon, Man., has been appointed Superintendent, Cranbrook Division, British Columbia District, vice A. C. Harshaw, transferred. Office, Cranbrook, B.C.

Canadian Pacific Ocean Services, Ltd.—Lieut.-Col. F. A. GASCOIGNE, D.S.O., formerly Superintendent, Car Service, Eastern Lines, C.P.R., Montreal, has been appointed Secretary-Treasurer, C.P.O.S., Ltd. Office, Montreal.

Grand Trunk Ry.—Owing to the illness and enforced absence for some months of U. E. GILLEN, Vice President in charge of transportation, the duties of that office have been assumed by W. D. ROBB, Vice President in charge of motive power.

W. H. SAMPLE, heretofore Superintendent Motive Power and Car Department, Grand Trunk Western Lines Rd., Detroit, Mich., has been appointed General Superintendent, Motive Power and Car Departments, G.T.R. Office, Montreal.

J. M. ROSEVEAR has been appointed General Auditor, G.T.R. and Grand Trunk Pacific Ry. Office, Montreal.

J. F. AITCHISON, heretofore special auditor, has been appointed acting Auditor of Disbursements, G.T.R. and Grand Trunk Pacific Ry., vice J. M. Rosevear, Auditor of Disbursements, promoted. Office, Montreal.

W. McNAB, heretofore Valuation Engineer, has been appointed Chairman, Valuation Committee, vice H. R. Safford, Chief Engineer, who has left the service. Office, Montreal. This is a board of G.T.R. officials formed in accordance with an act of the U.S. Congress, directing the Interstate Commerce Commission to secure the valuation of all property owned or used by common carriers.

A. CRUMPTON, heretofore Assistant Valuation Engineer, has been appointed Valuation Engineer, vice W. McNab, promoted. Office, Montreal.

W. A. PITT, Foreman Machine Shop, Montreal, has been appointed Assistant Master Car Builder, Montreal shops.

I. N. CLARK, heretofore Assistant Master Car Builder, London shops, has been appointed Master Car Builder, Ontario Lines, vice T. A. Treleaven, retired under the pension rules. Office, London, Ont.

J. BROOKS, Foreman, Passenger Car Shops, Montreal, has been appointed Assistant Master Car Builder, London shops, London, Ont., vice I. N. Clark, promoted.

Grand Trunk Pacific Ry.—J. M. ROSEVEAR has been appointed General Auditor, G.T.R. and G.T.P.R. Office, Montreal.

J. F. AITCHISON has been appointed acting Auditor of Disbursements, G.T.R. and G.T.P.R. Office, Montreal.

G. U. RYLEY, Land Commissioner, Winnipeg, having retired from the service, the position has been abolished, the land and town sites departments being placed under the Land and Tax Agent there.

H. E. BISSELL, heretofore Right of Way and Claims Agent, has been appointed Land and Tax Agent, and his former position has been abolished. He continues to deal with right of way matters. Office, Winnipeg.

H. H. HANSARD, Solicitor, has had his jurisdiction extended over the Claims Department, and deals with all correspondence and reports pertaining to claims on account of injuries to persons or live stock. Office, Winnipeg.

P. C. PERRY, heretofore instrument man, Edmonton, Alta., has been appointed Assistant Resident Engineer, Regina, Sask., reporting to the Resident Engineer, Melville, Sask.

G. MURRAY, heretofore instrument man, Regina, Sask., has been appointed Resident Engineer, Melville, Sask., vice S. Smith, promoted.

S. SMITH, heretofore Resident Engineer, Melville, Sask., has been appointed Assistant Superintendent, Edson, Alta.

Grand Trunk Western Lines Rd.—B. J. FARR, heretofore Master Mechanic, G.T. R., Battle Creek, Mich., has been appointed Superintendent Motive Power and Car Department, G.T.W.L.R., vice W. H. Sample, resigned to re-enter G.T.R. service. Office, Detroit, Mich.

Michigan Central Rd.—W. J. SHAW, heretofore Assistant Division Engineer, St. Thomas, Ont., is reported to have been appointed Division Engineer, there, vice J. E. Johnson, resigned.

Minneapolis, St. Paul & Sault Ste. Marie Ry.—G. R. HUNTINGTON, Federal Manager, Minneapolis, Minn., has had his jurisdiction extended over the Mackinac Transportation Line and the Sault Ste. Marie union station.

New York Central Rd.—A. L. MILLER, heretofore General Agent, Montreal, has been appointed General Agent, at Albany, N.Y.

Northern Navigation Co.—E. W. HOLTON, heretofore General Passenger Agent, has been appointed General Freight Agent in charge of Freight Traffic, and the Passenger Department has been placed under the supervision of the Manager, H. H. Gildersleeve. Office, Sarnia, Ont.

F. D. GEOHEGAN has been appointed Eastern Passenger Agent to assist the Manager in the Passenger Department. Office, Sarnia, Ont.

Reid Newfoundland Co.—J. McNEIL FORBES is reported to have been appointed to develop the natural resources of the company's properties.

The United States Railroad Administration's Work.

Loans to Railways.—Believing that it will be for the general welfare and a factor in beneficially stabilizing money rates, the Director General announces that as to all railway mortgage bond issues which may mature between the present time and July 1, 1919, where railway companies may find it impracticable to obtain money for the renewal of their maturing bonds at a rate of interest which the Director General may feel warranted in approving, he will lend to all such companies on safe and reasonable security at the rate of 6%, such funds as may be necessary to pay off their maturing issues of mortgage, equipment, or debenture bonds. The aid thus rendered by the Director General to maintain on a moderate basis the rates of interest which railways may be required to pay on loans must not be interpreted by them as relieving them of the duty and responsibility of using their best efforts to provide for their own financial needs as occasions arise, but is intended to give them assurance that the money required for their legitimate needs, and for which they can offer satisfactory security, can be obtained without their being required to pay exorbitant or unreasonable rates or commissions.

Meals for Army and Navy Men.—The Railroad Administration and the War and Navy Departments have agreed upon an arrangement for furnishing meals in dining cars and restaurant stations to officers and enlisted men which is proving very popular with men in the service. The War and Navy Departments have raised the meal allowance to 75c. In some instances the former allowance was 50c and in others 60c. Orders have been issued that a substantial and appetizing table d'hote meal be furnished for this sum. The weight of each article on the menu will equal or exceed the army and navy rations. The arrangement will apply to officers and men traveling at their own expense as well as to those who are traveling on government orders, and includes inducted men on their way to enter the service.

Standardizing the Prince Edward Island Railway.

Previous to the building of the car ferry steamship Prince Edward Island, all traffic to and from Prince Edward Island was handled by steamships during the season of navigation between Pictou, N.S., and Charlottetown, P.E.I., and between Point du Chene, N.B., and Summerside, P.E.I., and in the winter by ice breaking steamships between Pictou, N. S., and Georgetown. Charlottetown is the capital and principal city of the province; Summerside being the principal town of the western end. In 1912, the demands for more adequate transportation facilities were met by the Dominion Government with a proposition to put on a car ferry between Cape Tormentine, N.B., and Carleton Point, P.E.I., now called Borden, a distance of 9 miles, and work was started on the construction of docks, with the necessary transfer facilities, in 1914. The car ferry steamship Prince Edward Island was built specially for this service, with a capacity of 12 of the largest standard freight cars, and being a very powerful ice breaker, has had no difficulty in operating during the winter.

Owing to the loss of shipping, and high freight rates, the burden of transporting all classes of merchandise to and agricultural products from the Island became so great that it has been deemed necessary to extend the standard gauge service from Borden to Charlottetown and Summerside. As the narrow gauge line must also be operated to connect up the remaining portion of the P.E.I. Ry., it became necessary to lay a third rail to take the standard cars, and this work is now under way; the mileage covered being as follows: Borden to Emerald Jct., 12.15 miles; Emerald Jct. to Charlottetown, 30.30 miles; Emerald Jct. to Summerside, 17.08 miles. Total, 59.48 miles.

The P.E.I. Ry. gauge is 3½ ft., and in order to keep the standard track on the centre of the roadbed it is necessary to line the ties and narrow gauge track over, remove spikes from the old rail and relocate the same on the ties. The ties formerly used on this railway were 7 ft. x 6 x 8 in., and since 1913 tie renewals have all been made with standard 8 ft. ties, so that on completion of this year's renewal some 60% of all ties in the third rail territory will be 8 ft. long. The rail being used is 67.5 lb. per yard, of pecular section, 5 in. high and 4 in. wide on the base. It was rolled in the United States for the Russian Government, together with special angle bars, bolts and spikes.

Work was started last spring as soon as the ground was fit to work, with a Marion ditcher, widening cuts and embankments, which in a great many places were too narrow to carry standard equipment. About 75% of this work is completed and about 10% of the tracklaying was completed on Oct. 1. It is expected to have standard cars running to Charlottetown and Summerside by Jan. 1 with the necessary facilities for handling them at both points, including transfer tracks, locomotive house alterations, turntables and shed accommodation.

Bridges are being replaced with second hand steel, released from the main lines, or supported by bents, where opportunity offers. All small openings are being renewed or replaced with concrete pipe culverts where the same can be done to advantage.

The work is being done by the railway forces, under the direct supervision of T. B. Grady, Superintendent, and Alex. Scott, Resident Engineer. The labor is mostly German, supplied from the internment camp at Amherst, N.S., with the necessary guards and officers. At present time there are approximately 100 men at work and this force will be increased as soon as possible.

Canadian Northern Railway Earnings, etc.

Gross earnings, working expenses, net earnings, increases and decreases compared with those of 1917, from July 1, 1918.

	Gross earnings.	Expenses.	Net Earnings.	Decreases.
July	$3,739,400	$3,462,700	$276,700	$628,200
Aug.	3,933,300	3,433,700	499,600	93,600
Sept.	4,050,900	4,109,000	* 58,100	484,000
	$11,723,600	$11,005,400	$718,200	$1,205,800
Inc.	1,131,800	2,337,600	.....	.....
Dec.	.....	.....	1,205,800	.....

*Deficit.

Approximate earnings for three weeks ended Oct. 21, $3,302,200, against $2,591,400 for same period 1917.

Canadian Pacific Railway Earnings, Etc.

Gross earnings, working expenses, net earnings, and increases or decerases, compared with those of 1917, from Jan. 1, 1918:

	Gross earnings.	Expenses.	Net Earnings.	Decreases.
Jan.	$10,789,818	$9,621,824	$1,167,993	$1,263,485
Feb.	9,574,302	8,893,404	590,898	1,396,151
Mar.	12,427,915	9,435,134	2,992,781	944,536
Apr.	13,328,849	9,873,459	3,455,390	719,588
May	13,314,117	9,626,341	3,687,776	863,944
June	12,577,286	9,765,139	2,812,147	1,103,759
July	12,374,165	10,204,153	2,170,012	1,589,995
Aug.	13,109,753	9,901,123	3,208,630	608,908
Sept.	13,584,771	10,463,330	3,121,441	625,710
	$111,080,975	$87,873,907	$23,207,068	$9,115,077
Inc.	1,687,459	10,802,536	.....	.....
Dec.	.....	.....	$9,115,077	.....

Approximate earnings for three weeks ended Oct. 21, $10,491,000, against $9,604,000 for same period 1917.

Grand Trunk Railway Earnings.

Jan. to	Gross. earnings.	Expenses.	Net. earnings.	Increases or Decreases.
June	$26,162,127	$25,855,560	$ 306,567	*$4,652,068
July	5,788,482	4,358,163	1,430,319	214,767
Aug.	6,106,006	4,325,751	1,780,255	656,719
	$38,056,715	$34,539,474	$3,517,131	*$3,780,581
Inc.	4,432,430	8,213,011	.....	.....
Dec.	.....	.....	$3,780,581	.....

*Decreases.

Approximate earnings for September, $6,350,870, and for three weeks ended Oct. 21, $4,190,691, against $4,465,678 and $2,020,745 for same periods 1917.

Grand Trunk Pacific Ry. Earnings.

Earnings for August, $411,364, against $486,849 for Aug., 1917; aggregate for two months ended Aug. 31, $849,211, against $976,829 for same period 1917. Approximate earnings for three weeks ended Oct. 21, $331,194, against $328,613 for same period 1917.

Traffic Orders by Board of Railway Commissioners.

Storage of ex-Lake Grain at Montreal.

27714. Sept. 27. Whereas the Montreal Harbor Commissioners, by bylaw 104, issued Sept. 20, 1918, to become effective Oct. 1, 1918, have reduced the period within which grain may be stored in their elevators at Montreal, free of storage, from 20 days to 10 days, the said Harbor Commissioners not being subject to the board's jurisdiction; and whereas the G.T. R., relying on the Harbor Commissioners' bylaw previously in force, announces in its tariff that the grain carried by its company from its lake ports is entitled to 20 days free storage, and has applied to the board for permission to amend its tariff so as to restrict the said free storage period to 10 days on and from Oct. 1, 1918, it is ordered that the G.T.R., or any other railway company which has made similar publication, be permitted to amend its tariff, or tariffs, as aforesaid; provided that should the Harbor Commissioners extend their free storage period beyond 10 days, the tariff, or tariffs, of the railway company, or companies, shall be simultaneously amended so as to provide for at least the same free storage period.

Commercial Travellers' Fares and Baggage.

27718. Sept. 28. Re complaint of Dominion Travellers' Association, the Northwestern Canada Travellers' Association of Montreal, and the Commercial Travellers' Association of Canada, Toronto, against the proposed cancellation by the Quebec, Montreal & Southern Ry. Company and the Napierville Junction Ry. of reduced fares and special baggage allowance for commercial travellers. Upon reading what has been submitted on behalf of the complainants, it is ordered that the following schedules be, and they are hereby, suspended pending hearing on a date to be fixed by the board:—

Quebec, Montreal & Southern Ry.—Supplement 6 to C.R.C. 160; supplement 1 to C.R.C. 236; supplement 2 to C.R.C. 263.

Napierville Junction Ry.—Supplement 3 to C.R.C. 31; supplement 2 to C.R.C. 69; supplement 1 to C.R.C. 94.

Freight Rates on Turnips.

27772. Oct. 21. Re in the matter of application of Toronto Board of Trade, on behalf of the Ontario Turnip Shippers' Association, for an order suspending the proposed tariffs of the Grand Trunk and Canadian Pacific Railways, to take effect Oct. 22, and of the Toronto, Hamilton & Buffalo Ry., to take effect Nov. 1, to apply on turnips, in carloads, from points in Ontario to points in the United States. Upon hearing the matter at Toronto, Oct. 17, the applicants and the railway companies being represented at the hearing, it is ordered that the Grand Trunk, Canadian Pacific and Toronto, Hamilton & Buffalo Railways be required to publish and file tariffs of joint through rates on turnips, in carloads, from the shipping points of the said companies to the principal destinations in the southern United States, as arranged between the parties, that shall not exceed the lowest combination of rates to and beyond Buffalo, N.Y., or to and beyond basing points commonly called the Ohio River Crossings, the said tariffs to become effective not later than Nov. 1, and may be filed on one day's notice, subject to the consent of the Interstate Commerce Commission. It is also ordered that the said tariffs, when effective, shall supersede the tariffs complained against; and it is further ordered that order 27439, July 17, 1918, be rescinded.

Freight Rates on Building Materials.

27773. Oct. 22. Re complaint of Canadian Manufacturers' Association against the increases shown in the special tariffs filed by railway companies on what are described as "building materials." Upon its appearing that commodity tariffs published and filed by the Grand Trunk, Canadian Pacific, Canadian Northern, Toronto, Hamilton & Buffalo, Quebec, Montreal & Southern, Napierville Junction, Dominion Atlantic, Glengarry & Stormont, and Chatham, Wallaceburg & Lake Erie Railways, and the New York Central, Michigan Central, Pere Marquette and Wabash Railroads show rates that have been increased more than the 25% provided for by sec. 1 (b) of the order in council 1863, dated July 27, 1918, the said tariffs being those applicable to building, road and drainage materials, and raw materials therefor; and upon reading the report and recommendation of the board's Chief Traffic Officer, it is ordered that the said rates, to the extent that they exceed those provided for by the said order in council, be disallowed, and the said railway and railroad companies are hereby permitted, on one day's notice to the public and to the board, to republish and refile the said rates in accordance with the said order in council.

Milling in Transit Charge on Grain East of Fort William.

27781. Oct. 28. Re application of Quaker Oats Company for an order suspending various C.P.R. schedules published to become effective Nov. 1, increasing its milling in transit charge on grain east of Fort William from 1c to 2c per 100 lb. Complaints having also been filed with the board against the proposed increased milling in transit charge by the Winnipeg Board of Trade, the Western Canada Flour Mills Co., N. M. Patterson & Co., and the Anchor Elevator Company, Winnipeg, it is ordered that the effective date of all schedules filed by the Canadian Pacific, Canadian Northern, Grand Trunk, and Grand Trunk Pacific Railways providing for an increase to 2c per 100 lb. for milling in transit, be delayed pending hearings and further order of the board.

Canadian Railway Club.—Consequent on the accidental death of the President, C. W. Van Buren, General Master Car Builder, C.P.R., the following officers were elected at a meeting of the executive committee, Oct. 8:—President, T. C. Hudson, Master Mechanic, Quebec District, Canadian Northern Ry.; First Vice President, J. Hendry, Master Car Builder, G.T.R.; Second Vice President, W. H. Winterrowd, Chief Mechanical Engineer, C.P.R.; member of the executive committee, E. R. Battley, Superintendent of Mtoive Power, Eastern Lines, G.T.R.

Steel Rail Deliveries.—We were officially advised Oct. 19 that the Dominion Iron & Steel Co., Sydney, N.S., had rolled 89.425 tons of steel rails out of the 100,000 tons ordered by the Dominion Government and that 76,743 tons had been shipped to railways as below:—

Canadian Government Railways.....	14,309 tons
Canadian Northern Ry.....	18,528 "
Canadian Pacific Ry. Co.....	30,197 "
Grand Trunk Ry.....	13,708 "

Railway Rolling Stock Orders and Deliveries.

The International Nickel Co., Port Colborne, Ont., has ordered 4 six-yard, 2-way, side dump cars, equipped with automatic couplers, from National Steel Car Co.

The Prince Edward Island Ry. has received 2 ten-wheel narrow gauge locomotives from Canadian Locomotive Co., the balance of an order placed for 4 of this type.

The Italian Government has ordered from the American Locomotive Co., 150 locomotives for use on the state railways. The contract price is said to exceed $5,000,000.

The Canadian Northern Ry. has received 4 six-wheel switching locomotives from Canadian Locomotive Co., being the balance of an order placed by the Dominion Government.

The Grand Trunk Ry. has received 4 Mikado locomotives of the Canadian Government Railways type, from Canadian Locomotive Co., as part of an order placed by the Dominion Government.

The Canadian Car & Foundry Co. has delivered 894 steel frame box cars, 40 tons capacity, and 133 stock cars, 30 tons capacity, from its Montreal works, and 56 wooden box cars, which have been repaired at its Montreal and Amherst, N.S., works, to Canadian Government Railways.

The C.P.R., between Sept. 13 and Oct. 29, received the following rolling stock:—12 express refrigerator cars, 86 steel underframe box cars, 2 wooden single track snow ploughs, and 2 decapod locomotives from its Angus Shops, Montreal, and 3 vans from its Winnipeg Shops, and ordered one 29 ft. van from its Winnipeg Shops.

The Federal Malay States Government Railways, of Kuala Lumpar, India, have ordered underframes, brakes and trucks for 10 first class passenger cars, 10 second class passenger cars, 20 third class passenger and brake composite cars, and also underframes, brakes and trucks complete for 150 coal cars, from National Steel Car Co.

The Greater Winnipeg Water District Commissioners received tenders Oct. 28, for the purchase of 1 four-wheel switching locomotive, standard gauge, 35 tons, cylinders 16 x 26 in., water capacity 2,000 gals., coal capacity 3 tons, built by American Locomotive Co.; and 2 mogul (2-6-0) locomotives, standard gauge, 57 tons, cylinders 18 x 24 in., water capacity 5,000 gals., coal capacity 8 tons, built in 1914 by Montreal Locomotive Works.

The British-American Nickel Corporation, Murray, Ont., has ordered from Canadian Car & Foundry Co., 3 mine skip cars, with liners, bail and clevises. They will have chilled cast iron tread wheels pressed on the axles, instead of manganese steel, liner plates on bottom and rear of cars only, and to be of open hearth steel instead of manganese steel. They will weight 5 or 6 tons each and hold 7½ tons of ore, operating on a 36 degree incline at a speed of 1,500 ft. a minute. They are being built at the company's Montreal plant.

The Esquimalt & Nanaimo Ry. started the operation of an additional freight service between Victoria and Nanaimo, B.C., Oct. 15, by attaching a freight car to the daily northbound passenger train.

Directors' Inspection of Canadian Northern Railway.

D. B. Hanna, President, and Robt. Hobson, one of the other C.N.R. directors, left Toronto, Oct. 4, for an inspection of the main line to Vancouver, R. P. Ormsby, the company's Secretary, accompanying them. S. J. Hungerford, General Manager, Eastern Lines, and A. F. Stewart, Chief Engineer, Eastern Lines, travelled with them to Port Arthur, where they were met by M. H. MacLeod, General Manager and Chief Engineer, Western Lines, and A. Wilcox, General Superintendent, Central Division. At Winnipeg they were joined by the two western directors, R. T. Riley, of Winnipeg, and C. M. Hamilton, of Weyburn, Sask., who proceeded west with them right through to Victoria, B.C., which was reached Oct. 10. The principal operating officers accompanied the party within their respective jurisdictions. At Vancouver on Oct. 9 the President and other directors met the Minister of Railways, Hon. J. D. Reid, who accompanied them to Victoria, and also returned east with them. They also met the Minister of Public Works, Hon. F. B. Carvell, who accompanied them on their inspections in Victoria, Vancouver and New Westminster.

At Victoria, the president and other directors met the British Columbia Premier and other ministers, and discussed various matters affecting the interests of the railway and its relations with British Columbia, particularly in respect to the continuation of the line from Victoria to the Nitinat district. The party were taken over the terminal area at the Songhees Reserve, the harbor property, etc., by the mayor, who presented the city's point of view. Subsequently they met a delegation of the Victoria Board of Trade, and discussed the work necessary for the development of the trade of the port.

After hearing remarks by a number of members of the Victoria Board of Trade, the Minister of Railways said, as reported in the local papers, that he was glad to be able to assure the people of Victoria that within a few months 100 miles of the C.N.R. will be in operation on Vancouver Island. Now that the people of the country own the line, it has to be remembered that everything the people do themselves to popularize it will not only benefit the system itself, but it will also tend towards the development of the country. And no province has a better chance than British Columbia, with her mineral, forest and agricultural wealth, and her great seaboard. The minister referred at some length to the development of the port of Victoria, the necessities of which he had not fully understood prior to his visit. He thought that Victoria's position in relation to her possibilities of transportation had changed with the taking over by the government of the C.N.R. system. With docks and warehouses already established for public use, he had, and would continue, to urge upon the Minister of Public Works, the advisability of permitting them to form part and parcel of the C.N.R. system, instead of placing them within the control of the Public Works Department. He was amazed at the representations made in relation to the quantity of freight handled at the outer wharf, and the fact that an average of 30,000 tons required handling yearly, without solicitation of any kind, suggested the possibilities offered by a well organized Oriental campaign. He and the President and directors of the C.N.R. would return east fully seized with the idea that Victoria as a great port should be placed in the best possible position so far as the C.N.R. is concerned.

D. B. Hanna is reported to have stated, in the course of his remarks, that it would be the directors' object to aim at a large gross revenue, with a minimum of expenditure, so that it could be shown to the people of Canada that government ownership could be made to pay. After reviewing some points in the history of the line, he said that at the end of 20 years there were on the system some 800 locomotives and 32,000 cars, and that a substantial financial appropriation had already been voted for the provision of the additional urgently needed rolling stock. With that in mind, and with the plans that were assuming shape for the procuring of business, he could safely predict that development would commence right on Vancouver Island and in the City of Vancouver and proceed eastward and not stop until it reached the Atlantic Coast. He had seen the system grow from some 100 miles of line to nearly 10,000 miles. Some of the mileage built might not have been justifiable at the time, simply because the old management was not in a position to procure sufficient rolling stock. His judgment, based on over 20 years of experience with the company, was that, under normal conditions, the C.N.R. would most certainly be a really live asset and not a liability. His expectations in this regard were, of course, based on the road being managed on business principles and free from political interference. He was glad to be able to say that there was every indication that the board would have perfect freedom of action. The people could make or unmake the C.N.R. system, and he looked to them confidently for reasonable support. One of the company's best assets is the esprit de corps among all ranks of the service and the thorough feeling of loyalty to the system which prevails.

At Vancouver, the party visited the terminal works at False Creek, and the harbor facilities generally, and then went on to New Westminster and Port Mann.

The Minister of Railways is reported to have said, in speaking at Vancouver, now that the Canadian Northern Ry. has become the property of the people Canada, it is the government's duty to operate it in the interests of the people and not in the interests of any contractors. There is work to do in Canada for the whole system of Canadian Government Railways, now totalling about 14,000 miles. There are terminal facilities at Halifax and St. John, N.B., capable of handling the traffic, not only of the C.N.R., but of all the railways in Canada, or any transoceanic traffic that could possibly be required. The C.N.R. would prove of great value to British Columbia, but this could only come to pass if it had facilities at Vancouver twice as good as those of the C.P.R. He had found since coming to Vancouver, that though the people owned a railway and the government had built an elevator on Burrard Inlet, wheat could not be got to the elevator without paying heavy tolls for shunting cars, to the C.P.R. and to the Great Northern Ry. That is an obstacle to the development of trade, and as soon as he returned to Ottawa it would be removed. He wanted to see as much of the wheat as possible, if not the whole of the wheat for export from Alberta, going through this elevator, and then going by the Panama Canal to Liverpool or across the Pacific to the Orient. There must be a large fleet provided to ply on the Pacific as well as on the Atlantic Ocean, to connect with the government railways. With respect to the traffic between Vancouver and Victoria, a car ferry is on its way from the Atlantic seaboard, and is expected to arrive at an early date. Its capacity is 21 cars, and it will be able to handle all the traffic that may offer.

At North Vancouver, the party were received by the mayor and shown round. Mr. Hanna is reported to have said:—"There is no obstacle to putting on a car ferry between the government wharf on the Vancouver side and North Vancouver," the meaning of which, according to a local report, is that if such an improvement be effected, track connections would be made between the C.N.R. False Creek terminals and the government wharf. The mayor promised to send all data in regard to the matter to the company's offices in Toronto for the directors' consideration.

On the return trip eastward, the party left Vancouver Oct. 13 and stopped off at Kamloops, where they looked over the terminals, with a view of extending the line from the junction into the town, which will probably be done in the near future. Edmonton was reached Oct. 15, and after spending a day there they left for Calgary, and afterwards stopped over at Drumheller, Alta., where 18 coal mines are producing from 3,500 to 4,500 tons of high grade lignite a day, with the expectation of substantially increasing this next year. From Drumheller they went via Saskatoon to Winnipeg, arriving there Oct. 17. At Winnipeg the Minister of Railways and the directors visited the C.N.R. shops at Fort Rouge, also the Canadian Government Railways shops at Transcona, with a view to co-ordination of work in the event of the amalgamation of the Canadian Northern and the Canadian Government Railways. Messrs. Riley and Hamilton left the party at Winnipeg, and after spending three days there, the Minister of Railways and Messrs. Hanna, Hobson and Ormsby started east, making a short stop at Port Arthur, and reaching Toronto Oct. 22.

Sea Wall, Canadian Northern Terminals Etc. at Vancouver.

The Minister of Public Works, Hon. F. B. Carvell, was in Vancouver, Oct. 9, where he conferred with the mayor and representatives of the city council upon harbor development matters. One of the places visited was the sea wall at False Creek, work on which has been stopped pending settlement of certain matters with Champion & White, who claim its erection will prevent their making use of their wharf. The city claims that it has a crown grant prior to Champion & White and that the firm had never been authorized to build a wharf. All the facts in connection with the matter were laid before the minister, who stated that the erection of the sea wall would have to be proceeded with. He was shown the site of the proposed deep sea terminals at the Kitsilano reserve, and the route of the line connecting them with the Canadian Northern Ry. at False Creek, and the lay-out of the proposed docks at English Bay, and he is reported to have said on his return to the city that deep sea terminals are a logical necessity for the C.N.R.

Railway and Other Lockouts and Strikes Prohibited by Order in Council.

The following order in council has been passed by the Dominion Government:

Whereas the Minister of Labor represents that under the provisions of the Industrial Disputes Investigation Act and amendments thereto, provision is made for the establishment of conciliation boards for the adjustment of disputes between employers and employes in the manner in said act and amendments thereto provided;

That by order in council P.C. 1743 of July 12, 1918, provision is made for a board of appeal to which resort may be had when any party interested feels aggrieved by the decision of any such board of conciliation;

That there has been constituted by the Canadian Railway War Board, with assent of representatives of the organized bodies of railway employes, a board of adjusters for the settlement of disputes that may arise between the employes engaged in railway work and their employers;

That by these different dispositions full and adequate provision is made for the just and equitable settlement and adjustment of all matters of dispute that may arise between the employers and employes in the different industries affected by the Industrial Disputes Investigation Act and its amendments, or between employers and employes in connection with the carrying on of the operations of railways in Canada, but no provision is made for enforcement of obedience to and compliance with the orders or decisions of such boards, nor is there any prohibition of strikes or lockouts, after report has been made by a board of conciliation;

That in view of the provisions so made and of the injurious and detrimental effects resulting from the occurrence of strikes and lockouts in the different industries affected by the Industrial Disputes Investigation Act and in connection with the operation of the railways, which strikes or lockouts are of a nature to seriously interfere with the carrying on of said industries and the operation of the said railways, both of which are essential to the efficient performance of Canada's duty in aiding in the effective prosecution of the present war, it is necessary and advisable that under the powers conferred upon the Governor in council by the War Measures Act of 1914, such strikes and lockouts in connection with such industries or railway operations should be absolutely prohibited during the continuance of the present war;

Therefore, His Excellency the Governor General in council, on the recommendation of the Minister of Labor, and under the provisions of the War Measures Act, 1914, is pleased to make the following regulations, and the same are hereby made and enacted accordingly:—

1. In the present regulations, the word "person" wherever used, shall, save where the context otherwise requires, include every company, firm, partnership or other association of persons incorporated or unincorporated;

2. Any person who during the continuance of the present war shall incite, order or participate in a lockout or strike as defined in the said Industrial Disputes Investigation Act and amendments thereto, in any industry mentioned therein or to which the said act is applicable either in virtue of its terms, or of any act of fore, during or after an investigation by a board of conciliation established under the said act or amendments, or by a board of appeal or the board of adjusters above mentioned, shall be guilty of an offence punishable as hereinafter provided.

3. Any employer of labor shall be guilty of an offence and liable to the penalties hereinafter provided who, during the continuance of the present war, shall discharge or refuse to employ workers (other than those holding positions or employment which shall be by judgment of the board of appeal or the board of adjusters above mentioned, determined to be incompatible with membership in a union) merely by reason of membership in trades unions or for legitimate trade union activities outside of working hours.

4. Every worker shall be guilty of an offence, and liable to the penalties as hereinafter prescribed who in the exercise of his right to organize uses either coercion or intimidation of any kind to influence any person to join his organization.

5. Every decision or order of any board of conciliation shall, if unappealed from within 30 days after it is rendered or made, and every decision or order of the board of appeal or board of adjusters parliament or order in council amending the same, or in connection with the operation of any railway in Canada, beabove mentioned, shall be binding upon all persons affected thereby and any person who during the continuance of the present war fails or refuses to comply with any such order or decision of any board of conciliation or of the board of appeal or board of adjusters above mentioned shall be guilty of an offence and liable to the penalties hereinafter prescribed.

6. Any person violating any of the foregoing regulations shall be liable upon summary conviction to a penalty not exceeding $1,000, or to imprisonment for a period not exceeding 6 months, or to both fine and imprisonment.

7. (a) Any male person, employer or employe, of military age as defined by the Military Service Act, who violates any of the hereinabove enacted regulations, and any director of such military age of any company who acquiesces in the violation of the said company of any of said regulations, shall ipso facto be deemed to be a soldier enlisted in the military forces of Canada and subject to military law for the duration of the present war and of demobilization thereafter and shall forfeit any exemption granted to him and any right to apply for or obtain any exemption from military service under the Military Service Act.

(b) In any prosecution for acquiescence on the part of a director of any company in a violation by the said company of any of the present regulations, it shall be upon the party charged to prove non-acquiescence by him in such violation.

The Regina Municipal Ry. has posted the following notice in its cars:—"Please deposit your own fare. When you give the conductor a larger coin than 5c he will give you the full change or tickets. Then drop the exact fare in the box yourself. Don't carry money or tickets in your mouth. It is very unsanitary."

Rates of Pay for Minor Supervisory Officers on Railways.

The Canadian Railway War Board issued the following circular Oct. 17 to railways operating in Canada:—

The board having been requested to advise the railways in the establishment of increased rates of pay for minor supervisory officers, and enquiry and investigation having been made in both Canada and the United States, it is suggested that the following be used as a basis in computing rates for the position mentioned:

Assistant Yardmasters.—Minimum $175, maximum $240, a month.

Yardmasters.—Minimum $200, maximum $250, a month.

Assistant General Yardmasters.—Minimum $235, maximum $260, a month.

General Yardmasters.—Minimum $250, maximum $285, a month.

It is the intention that yards will be classified as "Number 1, 2 and 3," and rates applied in accordance with such classification, subject to the minima and maxima indicated. Classification of the yards and rates to be paid, subject to the foregoing, is left to the judgment of the individual railway managements. For the four classes of positions mentioned. 2 days off, with pay, per month and 2 weeks annual vacation (after one year's service) should be allowed. No limit is placed on the day's work, that is, no overtime is to be paid in addition to the monthly rates shown. The foregoing rates and conditions will not apply where the position is included in agreement between railway and labor organization.

Assistant Superintendents who devote their time exclusively to yard terminals shall be paid in accordance with rate quoted for general yardmasters.

Chief Dispatchers and Night Chief Dispatchers.—Apply increase of 20% over rates as of July 31, 1918, with a maximum of $275 a month.

Trainmasters.—Apply increase of 20% over rates as of July 31, 1918, with a maximum of $350 a month and minimum of $250. To include men designated as assistant superintendents at other than terminals.

Assistant Trainmasters.—Apply increase of 20% over rate as of July 31, 1918, with a maximum of $300 a month and a minimum of $200.

Road Foremen of Locomotives, Travelling Engineers and Division Master Mechanics of Superintendent's Division.—Apply increase of 20% to rates as of July 31, 1918, with a maximum of $300 and minimum of $200 a month.

Assistant Road Foremen of Locomotives and Road Foremen, if employed under supervision of Division Master Mechanic.—Apply increase of 20% over rates as of July 31, 1918, with a maximum of $250 and a minimum of $175 a month.

Travelling Firemen.—Apply increase of 20% over rates as of July 31, 1918, with a maximum of $200 and a minimum of $150 a month.

Division Engineers, Engineers, General Roadmasters, Superintendents of Track or Superintendents of Bridges and Buildings.—Apply increase of 20% over rates as of July 31, 1918, with a maximum of $350 and minimum of $250 a month.

Resident Engineers, Assistant Engineers, Roadmasters, Track Superintendents, Bridge and Building Masters, Supervisors of Bridges and Buildings and Supervisors of Signals or their equivalents.—Apply increase of 25% over rates as of July 31, 1918, with a maximum of $225 and minimum of $150 a month.

Electric Railway Department

Increases in Electric Railway Freight and Passenger Rates.

British Columbia Electric Ry.—A conflict has been waging between Vancouver City Council and the B.C.E.R. over the 6c fare. The city applied for an interim injunction to restrain the company from charging the fare, but the court refused the injunction and the case will come before the court in the usual way. The city council on July 8 granted the company the right to charge 6c, the company thereupon paying increased wages and settling the strike. A few weeks later, after the bylaw had been signed by the city clerk, the mayor refused to sign, intimating that he would not sign until the B.C.E.R. reduced its lighting rates. The city council then decided that it had overstepped its powers in granting the higher fare permission, and was informed by the city solicitor that it could not repeal a bylaw that was legally non-existent, but could amend it by putting it to the people by ballot. The company contended that there was a binding contract which had been performed in full by the company. On being submitted to the people on Oct. 5, the bylaw was defeated by 1,311 against and 642 for. Little or no interest was taken in the voting, because the submission of the bylaw was in doubt up to the last moment, owing to the discussion of the proposed new franchise and the proposal to withdraw. A majority of the city council is now said to be in favor of the 6c fare, but could not withdraw from their stand on the necessity of submitting the bylaw.

Following the declaration of the result of the vote, the company issued the following statement:—"We regret that the taxpayers have not confirmed the agreement between the city council and the company. There is no question that the city council on July 8 authorized this company to charge a 6c fare and it was on the strength and good faith of this authorization that the company incurred the heavy increase in expenses in the higher wage sof the men and enabled the car service to be resumed. The company fulfilled its part of this contract in every particular. It paid the wages, and to put the question of the 6c fare, on the strength of which the company performed its part, to the taxpayers, was contrary to all business principles. The agreement of July 8, in our opinion, still stands and it is our opinion, having performed our part to the letter, that we have the legal and moral right to collect a 6c fare. We will therefore act in accordance with the agreement and charge 6c on the cars."

Drafts of the proposed franchise have been exchanged by the company and city. The company asked for the present franchise to be changed only as regards the fare. It proposed that the 6c fare be authorized until a public service commission, appointed by the province, should decide otherwise on application of either the city or the company. The city stipulated a 5c fare, complete control of the service and extensions, pavement of whole area of street within the tracks and for 18 in. outside, and the scale of percentages on gross earnings to the city on receipts over $2,000,000 to be raised to 10%. The rate has been 8% up to $2,000,000. Discussion over the terms of the franchise is still going on, the city and company being unable to agree on many points, especially that of the fare to be charged.

The Victoria City Council, on Oct. 17, after several meetings of committees, and of the council, reached something like a basis for a revision of the company's charter. The terms have not been definitely set out, but it is reported that the city will give permission for the increase of fares if the company will grant certain concessions, but that no definite decisions will be reached until after the council has had an opportunity of examining the draft of the new agreement proposed between the company and the City of Vancouver.

A Victoria press dispatch of Oct. 28 says:—"It looks like a peaceful settlement of all the difficulties between the city and the B.C. Electric Ry., as the city council has agreed to 6c fares and made other concessions to the company."

The British Columbia Electric Ry. has applied to the Board of Railway Commissioners for authority to advance freight rates on the Vancouver, Fraser Valley & Southern Ry., 25%, on the same basis as steam railways were authorized to do recently by Dominion order in council.

Fort William Municipal Ry.—A joint meeting of the Fort William, Ont., Public Utilities Committee, and of the Port Arthur, Ont., Utilities Commission, was held Oct. 8, to consider the rates of fares on the electric lines in the two cities, and the line connecting them, at which it was reported that the Ontario Railway and Municipal Board could not fix a date for the hearing of an application until early in 1919.

The Hamilton Radial Electric Ry. operates a line from Hamilton to Oakville, Ont., under franchises granted by the City of Hamilton, the Townships of Saltfleet and Nelson, the Village of Burlington and the Town of Oakville. Owing to the increased cost of labor and materials, the company made application some time ago to the Board of Railway Commissioners for permission to increase its rates, and the board issued an order granting an increase of 15% in the standard maximum freight mileage tariff, 15c a ton increase on coal and an increase in the standard tariff from 2c to 2⅞c a mile, subject, however, to the limitations created by the Saltfleet, Nelson, Burlington and Oakville franchises. The order was published in Canadian Railway and Marine World for August, pg. 347, and the judgment in the Sept. issue on pg. 400.

On Aug. 17 the company gave notice to all the municipalities interested that as they objected to an increase in fares, it would, on and after Sept. 15, reduce its service to the number of cars each way required by the franchise bylaws, which meant a reduction in the winter service from 19 cars a day in each diretcion to 6. Subsequently, at the municipalities' request, the company consented to defer putting the reduced schedule in effect until Oct. 1. The matter was considered by the interested municipalities, and as a result a general conference of representatives of Hamilton, Burlington, Oakville, and the two township municipalities was held in Hamilton, Sept. 24, at which it was suggested that the company should further defer putting the reduced schedule in operation for a month. The Burlington Beach Commission on the following day favored an appeal to the Board of Railway Commissioners for the adjustment of the timetable so as to give the greatest convenience, and on Sept. 28, the Hamilton City Council offered the assistance of its legal department in any action that might be taken. A public meeting was held in Burlington, Oct. 1, at which resolutions were passed appealing to the Board of Railway Commissioners for redress. Subsequently the board's Chief Operating Officer, G. Spencer, visited the district, and following this, on Oct. 18, the following telegram was sent to the company:—"Board desires that sufficient of service withdrawn by your changes of timetable, Oct. 1, be restored immediately to adequately take care of traffic. Schedules leaving Burlington at 6, 7 and 8 a.m., and Hamilton, 4.10, 5.10 and 6.10 p.m., with sufficient cars on each schedule, be minimum of service provided until matter can be finally disposed of."

The company resumed the customary hourly service Oct. 7, pending the hearing of the application, which was fixed for Oct. 17, at Toronto. At the hearing, the representatives of the municipalities produced the bylaws and made statements as to traffic conditions. The company admitted that the restricted service proposed by the schedule was inadequate and satisfactory neither to the municipalities nor itself, but that unless relief was given in the way of increased fares it would soon be necessary to suspend operation altogether. The curtailment of the service was made with a view to bringing home to the municipalities the seriousness of the situation. The company pointed out that there appeared to be only three courses open, viz.: (1) an increase of rates sufficient to meet the expenses of operation; (2) to cease operation and to realize on the company's physical property at the present high price of material, or (3) to adopt the service-at-cost method.

The Chief Commissioner advised the parties to get together and to try and reach a settlement. No order was issued, the board taking the matter under advisement, in the hope that it might be settled by negotiation. The company is maintaining its usual hourly service in the meantime.

Moncton Tramways, Electricity & Gas Co.—The New Brunswick Public Utilities Commission began hearing this company's application for authority to charge increased fares on its street railway and higher rates for natural gas, at St. John Sept. 25. A few days later negotiations were undertaken to arrive at a settlement, and the sittings were adjourned until Oct. 2, when it was announced that the negotiations had failed, and the commission adjourned the further hearing to Nov. 27.

Montreal & Southern Counties Ry.—Canadian Railway and Marine World for September contained copious extracts from the Chief Railway Commissioner's judgment, granting this company's application for increase of freight and passenger rates, to the same extent as permitted by the board in the case of steam

railways. The town of St. Lambert, Que., appealed to the Dominion Privy Council against this judgment, claiming that the Board of Railway Commissioners has no jurisdiction to increase the fares to be charged by the company between Montreal and St. Lambert and vice versa, as the same are governed by a notarial contract entered into Mar. 2, 1909, between the town and the company, which confirmed certain franchises and rights within the town, one of the considerations being the fixing of fares, that the contract cannot be set aside or modified without the consent of both parties thereto, and asking that the Governor General in council rescind the Board of Railway Commissioners' order and that it be declared that the contract be maintained for its full term. The petition came before the Privy Council at Ottawa Oct. 9, when argument on behalf of the parties interested was heard. The Minister of Justice reported, that having perused the petition and the reasons for the Board of Railway Commissioners' judgment, and having heard the arguments of counsel for all parties, he was of the opinion that the petition raised questions of jurisdiction and of law, and that an appeal lies from the board's order to the Supreme Court of Canada, under the Railway Act, R.S.C. 1906, chap. 37, sec. 56, subsections 2 and 3, that in such cases it is desirable that the procedure provided by said subsections should be followed, and he therefore recommended that the petition be not granted. The other members of the Privy Council present concurred in this and the appeal was dismissed. The town of St. Lambert was represented by L. A. David, K.C., and the company by W. C. Chisholm, K.C.. Hon. Hugh Guthrie, M.P., W. B. Powell, General Manager, and J. P. Hudson, Accountant.

The Montreal Tramways Co. put into operation, on Oct. 3, the new schedule of fares as fixed by the Quebec Public Utilities Commission. Tickets for the new fares were put on sale Sept. 29, at 37 places throughout the territory served, and also by conductors and by inspectors and agents stationed at principal intersections. Unused tickets under the old schedule were redeemed at the company's offices in cash or new tariff tickets. The old blue tickets were not redeemed, it being announced that they would be accepted for fares between 6 and 8 a.m. and 5 and 7 p.m. only.

Moose Jaw Electric Ry.—At a meeting of the Moose Jaw, Sask., City Council Oct. 7, when the question of getting the company to repair the South Hill bridge, was under discussion, Alderman Ingram is reported to have said that it was no use the council meeting and passing resolutions and charging things up to the company which would be unable to pay its liabilities; the street railway in Moose Jaw was operating at the same rates as before the war, and he could not understand why people should expect private capital to operate at a loss; the whole thing meant that either the council must meet the company in some way, or there would be no street railway service at all.

Port Arthur Civic Ry.—See Fort William Municipal Ry.

The Toronto Ry. applied to the Toronto City Board of Control on Oct. 9 for authority to increase its fares, saying among other things:—"We are sincerely anxious to maintain our service, and feel that owing to the prevailing abnormal conditions, we are justified in asking for the co-operation of the city in obtaining a straight 5c fare. We respectfully submit the payment of a straight 5c fare would be no great hardship to the public, and in our opinion such an increase will enable us to provide a greatly improved service." The Board of Control decided unanimously to refuse to entertain the proposal.

Windsor, Essex & Lake Shore Rapid Ry.—A. Eastman, Vice President and General Manager, issued a circular to the company's patrons recently, in which he said:—"On Sept. 1 a new passenger tariff becomes effective. Owing to the tremendous increase in costs of material and labor we cannot continue to operate the railway unless our receipts are materially increased. Under the new tariff the one-way fare remains as previously, on a basis of 2½c a mile. The slight changes in round trip fares have been made to conform with the regular round trip basis as used on steam railways. The increases in special and funeral car movements are necessary in order that this service will not be performed at a loss to the company. The family commutation books have been eliminated, as we find it is impossible to carry passengers at a rate of 1¼c a mile. For persons living along our line and whose business is located at another point and who will make a round trip daily, we have placed on sale the individual 54-ride monthly commutation book at a better rate than was given under the family commutation book.

"In order that our patrons may know something of the financial difficulties under which we are trying to operate, I give herewith a statement of our losses from operation this year. Commencing with Jan., 1918, our monthly deficits have been as follows: Jan.. $7,511.99; Feb., $3,522-.27; March, $152.50; April, $4,096.01; May, $5,382.91; June, $2,968.57; July, $4,469.43. A total deficit for 7 months of $28,103.68. This serious loss is accounted for by a general decrease in passenger traffic, owing to border restrictions, the general use of the automobile, general war conditions and a doubled increase in operating expenses.

Our pay roll has almost doubled during the past five years. Our fuel bill has increased from $700 a month to almost $2,100 a month at the present time."

After giving particulars of increases in cost of materials, supplies, etc., ranging from 40% to 300% the circular continues:—"You will readily see from the above that it is impossible to continue to operate at the same rate of fares as has been charged during the past 10 years. At present our average earnings per passenger is 22½c each. We had hoped the summer season would bring with it the usual increase in passenger traffic, but this has not developed to the extent we had expected and we now find it necessary to increase our earnings if we are to continue operations and to maintain track, overhead and equipment. Practically all steam and electric railways both in the United States and Canada have increased passenger and freight rates, in some cases to the extent of 40%. These increases have been approved by the Interstate Commerce Commission or the Board of Railway Commissioners after careful investigations.

"I believe it is admitted that the installation and operation of the W.E. & L.S. Ry. has resulted beneficially to the communities through which it runs, and we appreciate your past patronage and hope during these trying times special consideration will be accorded our efforts to provide a service. and every assistance will be given in order that it will not be necessary to make any further advances in rates in order to continue operation."

Winnipeg Electric Ry.—It was stated in Canadian Railway and Marine World for October that the company had advised the city council, Sept. 10, that it was preparing to ask for authority to increase its fare to 7c, with unlimited transfers as at present, or in the alternative for a fare of 6c, with a charge of 1c for transfers. This information was given in a press dispatch from Winnipeg dated Sept. 11, but we were advised on Sept. 28, after our October issue had gone to press, that the report was incorrect.

The company applied to the city council for authority, on Oct. 18, to charge 6c an adult passenger within the city, to sell school children's tickets at 7 for 25c, and to abolish all other fares. For fuller particulars, see "Winnipeg Electric Railway Wages, Revenues, etc., on another page of this issue.

An unconfirmed Winnipeg press dispatch of Oct. 26 says:—"The city council decided this afternoon to put the question of an advance in street railway fares up to the Public Utilities Commission. The 6c fare will likely be recommended. An offer by the company to sell out to the city immediately, for a figure based on the physical valuation of the company, was made to the council."

Vancouver Jitneymen and the British Columbia Electric Railway.

While a number of jitneymen have been fined in Vancouver police court for minor infractions of the traffic bylaws, the cases against others were adjourned upon the technical point of the summonses having been issued by the city while the temporary injunction affecting the matter was in force. This point was taken into consideration by the police magistrate, who dismissed the cases subsequently on the ground that the informations had been laid in contempt of court.

Owing to the congestion of traffic, it is impossible, it is said, to operate the service without breaking these regulations. When the cases were called on in the police court, Oct. 9, about 80 of them were withdrawn, it being shown that the bylaw provided that the company "shall" do certain things, but that no penalty is provided for if these things are not done. In regard to the remaining nearly twenty cases, it was argued that it was the crews of the cars who should be proceeded against and not the company. The police magistrate adjourned the cases to consider this point.

The Blue Funnel Motor Line on Oct. 3, in conjunction with W. Whalim, who describes himself as pastor of South Hastings Methodist Church, and who operates a jitney, initiated an action in the B.C. Supreme Court, against the city and the B.C.E.R.. asking for a declaration that all the anti-jitney legislation is invalid, and for an injunction to prevent the enforcement of the city bylaw prohibiting the operation of jitneys on city streets. The application was dismissed on a technicality Oct. 5. The application was renewed Oct. 9, and finally refused by Judge Morrison, Oct. 15.

The Nova Scotia Public Utilities Commission met at Halifax recently to investigate the condition of service, rolling stock and other equipment of the Nova Scotia Tramways & Power Co.'s electric railway lines in that city, in regard to which complaints had been filed.

Winnipeg Electric Railway Wages, Revenues, Etc.

The Minister of Labor, on Sept. 13, appointed a board of conciliation and investigation to inquire into matters in dispute between the Winnipeg Electric Ry. and its conductors and motormen, the board consisting of Isaac Pitblado, K.C., representing the company; R. S. Ward, representing the men, and Chief Justice T. G. Mathers as chairman.

It was shown at the meetings that as the result of a board of conciliation which met in May, 1917, the rates of pay for a year from May 1, 1917, to April 30, 1918, were fixed as follows per hour: First 6 months, 28c; second 6 months, 30c; 2nd year, 31c; 3rd year, 33c; therafter, 36c.

In Feb., 1918, a new agreement was entered into between the company and the men, which provided that if the jitney competition was abolished by Mar. 31, 1918, the following increased rates of wages would be paid from May 1, 1918: First 6 months, 30c; second 6 months, 32c; second year, 33c; third year, 35c; fourth and succeeding years of continuous service, 39c. The jitney competition was eliminated and the new rates went into effect May 1, 1918.

Notwithstanding the agreement, the conductors and motormen's secretary and business agent wrote the company's General Manager Aug. 26, 1918, asking that the following wages be paid on and after Sept. 15: First 3 months, 47c; next 9 months, 55c; thereafter, 60c; overtime to be paid time and a half.

The company's General Manager replied on Aug. 29, that an agreement governing the rates of wages was in existence and would not expire until April 30, 1919, that the wages asked were entirely exorbitant and far exceeding the rates of pay received by men in similar employment and under similar conditions, and that to accede to the demands would be to put the company into immediate insolvency.

On Sept. 3 the men applied for a conciliation board, which was granted by the Minister, as stated above. Following are the principal portions of the board's unanimous report:

"The first question which confronted the board was the existence of the agreement of Feb., 1918. It was felt that no countenance could be given to the idea that employes were at liberty to disregard their solemn engagements, and that where an agreement had been entered into, no board had the right to say that either party should be absolved from its binding effect, however much the conditions may have changed since it was entered into, or either party desired to have it changed. It was pointed out to the men's representatives that both their initial letter to the company's General Manager and the letter to the department, applying for a board, contained an intimation that they would disregard their agreement if their requests were not granted. Mr. Sinclair, on behalf of the men, disclaimed any right to break their agreement. He asserted that they held themselves bound by its terms and that all they meant by their application for a conciliation board and all they asked was an opportunity of showing that, owing to the rapid advance in the cost of living, the present scale of wages was inadequate to supply them with a reasonable living, and that the company ought to substitute for the present rates whatever rates the board should decide to be fair and reasonable. The attitude of the company's General Manager was that the men were bound by the agreement entered into, but as the Minister had so far acceded to the request of men as to grant a conciliation board, he felt it to be the company's duty to lay its case before the board.

"The men's demands were based solely upon the inadequacy of the present rate of wages, owing to the high cost of living. In support of their demands, the men presented to the board statements showing the Winnipeg prices of the various necessaries of life and the great increase which had taken place in such prices in recent years. On behalf of the company, it was pointed out that the present rate of wages paid to motormen and conductors by the company was higher than that paid by any other street railway company in Canada, with the exception of Windsor, Ottawa and Vancouver. The rates paid in other cities were as follows:

	Junior.	Senior.
Montreal	31	37
Toronto	30	37
Hamilton	30	37
Port Arthur	30	36
Fort William	30	36
Hull	29	36
London	30	35
Windsor	36	41
St. John, N.B.	30	36
Ottawa	35	39
Halifax	—	32½
Vancouver	40	51

"In the case of Ottawa, the rates were established by the unanimous decision of the labor appeal board rendered on Aug. 23, and the St. John rates by the majority report of a conciliation board dated Aug. 6, concurred in by the chairman and the labor representative, the company's nominee vigorously dissenting. In each of these cases the employes were represented by Mr. Sinclair, and the evidence as to the cost of living adduced before these boards was of the same general character as that presented to us. The above mentioned rates of pay have in the great majority of cases been established within the past four months, either by the award of a conciliation board or the agreement of the parties, and it will be noted that with respect to all of them, except in the cases of Windsor and Vancouver, which were affected by exceptional local conditions, the rates are (except in the case of Ottawa) lower than those at present in force in Winnipeg.

"It appears by the evidence before us **that the company has paid no dividend to its shareholders since Dec., 1915,** and at the present time, notwithstanding the elimination of the jitney competition, the **operating expenses and fixed charges** of the railway **exceed by several thousand dollars per month the railway's actual earnings, and that there is no source of revenue from which increased wages can be paid.** The company also furnished us with evidence of the general rate of wages paid in other occupations in the city, and, as to the increased cost of living, relied upon the tabulated statement prepared by the Labor Department published from time to time in the Labor Gazette, and also a statement furnished by the Labor Department as to the increased cost of living in Winnipeg. The employes claim that although the present scale of wages was arrived at by agreement in 1918, the then existence of the jitney competition was a matter considered by them, and that they were induced to enter into the agreement because they believed it was the best they could do under the circumstances, and they claimed the right to go back to 1913 and take into consideration the enhanced cost of living since that time. The company's representatives, on the other hand, contended that if the 1918 agreement is to be ignored, the starting point for any readjustment of wages should go no further back than the date of the 1917 agreement, and that all the men ought to receive by way of increased wages would be sufficient to take care of the increased cost of living since that date. The board has carefully considered the 1918 agreement and the increased cost of living since its date; the 1917 agreement, and the increased cost of living since its date, and the increased cost of living from 1913 to 1918, and has taken account of all these factors in the recommendation hereinafter contained.

"Further, it appears that in the case of Ottawa Electric Ry. men, the labor appeal board was of opinion that an increase of 9c an hour over the rates existing there in 1916 would be sufficient to take care of the increased cost of living, the resulting scale of wages being: junior men, 35c per hour, and senior men 39c per hour. The cost of living in Ottawa, according to the Labor Department statistics, is about 3% less than in Winnipeg. Formerly there was a much larger difference in the cost of living between Ottawa and Winnipeg, so that the percentage of increase has been greater in Ottawa than in Winnipeg. The Ottawa Electric Ry. employes received an increase of 3c an hour in 1916, whereas from 1913 to 1916 the Winnipeg Electric Ry. men received no advance. In order, therefore, to place the Winnipeg employe upon a level, in so far as increases in wages are concerned, with those in Ottawa, it would be necessary to add 12c an hour to the wages paid in Winnipeg in 1916, which were, per hour: For the 1st 6 months, 25c; for the 2nd 6 months, 27c; for the 2nd year, 28c; for the 3rd year, 31c; for the 4th year and after 34c. If 12c an hour is added to this scale, the result would be 37c, 39c, 40c, 43c and 46c.

"In awarding 9c an hour to the Ottawa employes, the Labor Appeal Board said: 'The board is of opinion....having regard to the increased cost of all commodities, while making allowance for the economies now practised by all, as well as for the substitution of cheaper commodities, that conditions would be fairly met as regards the men by granting motormen and conductors an increase of 9c an hour over existing rates.'

"We have carefully considered the whole situation and have spent several days since the hearing of the parties was concluded in anxious and earnest deliberation with a view of arriving at something upon which we could all agree and at the same time be fair to both the company and the men. Notwithstanding that with its present revenue the company is unable to pay even the present rate of wages, we think its employes should be paid fair living wages and that increase of revenue must be sought for to enable the company to perform this duty towards its employes. In addition to asking for increased wages, the men asked that the period to elapse before the maximum wage is obtainable be reduced. We think that some concession in this regard ought to be granted by the company. Upon a review of the whole situation, our recommendation is that the company put into effect on and from Oct. 1 the following scale of wages per hour: For the 1st

6 months, 39c; for the 2nd 6 months, 41c; for the 2nd year, 44c; for the third and succeeding years of continuous service, 47c. The men also asked that they be paid at time and a half for overtime. We think this is reasonable and should be consented to by the company.

"We recognize the fact that in order that the company may be able to pay these increased wages an increased revenue must be obtained. Bulletin 26, issued by the American Electric Railway Association War Board, Aug. 1, 1918, contains this statement: 'With respect to the relation of the wage increases granted today to the financial conditions of the companies concerned, the arbitrators made the following statement and recommendations in each case: 'This increase in wages will add substantially to the operating costs of the company and will require a reconsideration by the proper regulating authority of the fares which the company is allowed by law to collect from its passengers . . . This is not a question turning on the history of the relations between the local street railways and the municipalities in which they operate. The just claim for an increase in fares does not rest upon any right to a dividend upon capital long invested in the enterprise. The increase in fare must be given because of the immediate pressure for money receipts now to keep the street railways running so that they may meet the local and national demand for their services. Overcapitalization, corrupt methods, exorbitant dividends in the past, are not relevant to the question of policy in the present exigency. In justice the public should pay an adequate war compensation for a service which cannot be rendered except for war prices. The credit of these companies in floating bonds is gone. Their ability to borrow on short notes is most limited. In the face of added expenses which this and other awards of needed and fair compensation to their employes will involve, such credit will completely disappear. Bankruptcy, receiverships and demoralization, with failure of service, must be the result. Hence our urgent recommendation on this head.'

"We adopt the above quoted extract as our own. The present financial situation of the Winnipeg Electric Ry. Co. is not different from that of a great many other street railway companies in the United States and Canada.

"With respect to the duration of the present agreement, we would recommend that some such provision as is embodied in the report of a conciliation board between the Canadian Northern Express Co. and its employes, published in the Labor Gazette for September should be adopted, and for the reasons stated in that report. We therefore commend to the favorable consideration of the parties the following as an addition to their existing agreement:: 'That the new rates of pay shall continue in force until terminated by a 30-day notice by either party, after the conclusion of peace between Great Britain and her present enemy nations, and that until that time there shall be no strike of employes and no lockout by the employer: provided that there shall be a revision of the wage scale at the expiration of every six months hereafter, if it appears that since the last revision of wages there has been a general increase in the cost of living of 10% or more, in which case an increase of wages shall be granted sufficient to absorb such increased cost of living. The cost of living statistics tabulated by the Labor Department and published in the Labor Gazette after the expiration of such 6-monthly period shall be accepted as conclusive as to the fact of such increase, if any, and the extent thereof; provided further that should any dispute take place as to the interpretation of the existing rules and regulations, or as to the right of any employe or employes to an increase or the amount thereof, in accordance herewith, or as to carrying out the existing rules, the parties agree to refer the same to the labor appeal board, or to a conciliation board appointed under the Industrial Disputes Investigation Act, 1907, if the employes prefer the decision of such latter board. In the event of an application being made for a board under the said Act, the application may be made by either party, and in such application it shall not be necessary to make the statements required by sub-section 1 (b) of section 15 of the said act, as amended.'"

The Company's Application for Higher Fares.

On Oct. 18 the company forwarded a petition to the city council over the signatures of Sir Augustus Nanton, Vice President, and Lawrence Palk, Assistant Secretary, in which it said, among other things:—"Since the outbreak of war, operating costs, including labor and material necessary for rendering your petitioner's service to the public, have largely increased; such costs are increasing daily, and it is believed will continue; the amount of the increase which is being experienced generally through all lines of business is such that the prices, rates, fares and charges fixed by custom or law prior to the outbreak of the war are no longer fair, just or reasonable, and such costs are increasing with such rapidity that unless your petitioner is afforded some relief and is permitted to increase its revenue derived from transportation, it will be forced into bankruptcy. By awards of boards of conciliation which have recently been sitting to hear applications for increased wages by some of our employes, the company's pay roll will be increased by $361,952.42 annually. Increased pay is constantly being asked for in all branches of the company's street railway undertaking. In order to meet increased wages provided for by such awards, other increases which the company has to pay to its employes in other departments and increased cost of material, the total amount of the operating cost of the railway will be increased by $600,000 annually. Annexed is a financial statement for the period from Jan. 1 to Sept. 1, 1918, which shows a deficit in your petitioner's street railway department of $21,207.59, after providing for operating costs and fixed charges; and another statement based upon the findings of the boards of conciliation above referred to, and other increases in wages and uncontrollable expenditure, which shows that had the scale of wages recommended by the said boards, and the other increases above referred to, been in effect during the said period. the deficit would have amounted to $421.207.59 for the eight months, or $631,811.38 for the financial year ending Dec. 31, 1918.

"It has been repeatedly laid down that it is a duty resting upon the public authorities to secure to the company an adequate rate for the services rendered, which rate should yield sufficient to maintain the service. preserve the property from deterioration, and reward the investors with a fair return upon their outlay, and that the public has no right to be carried at less than cost. Your petitioner proposes that it should be allowed to charge 6c a passenger for the carriage of adult passengers within the City of Winnipeg, and school children's tickets at the rate of 7 for 25c, and that all other fares be abolished."

As a meeting of the city council held Oct. 18 was a special one for the purpose of passing accounts, the company's application was not dealt with, and on Oct. 19 the company issued the following statement:—"Since sending our petition to the city council yesterday, we have heard nothing from them. Pressure is being brought to bear on us by our bankers, who have refused to allow us to increase our debt to them, and who say they will no longer carry us with this great increase of $50,000 a month facing us. On the other hand, the motormen and conductors are demanding that an immediate decision be given them, and the increased wages put in effect. The company should have an immediate decision from the city council, and if a special meeting is not called to deal with our petition, we will ask them to call one as soon as possible, as the situation is a serious one."

It was reported, Oct. 23, that the men accepted the board of conciliation award, while the company stated it would be forced to refuse it, unless the city council would grant immediate relief by allowing the higher rate of fare asked.

Winnipeg, Oct. 29.—Members of the street railway union declared today that they will go on strike unless they receive the increase in wages granted them by the board of conciliation. The board made the award retroactive as from Oct. 1. The company contends that the increase cannot be paid until the privilege of advancing car fares is granted by the city council.

Winnipeg, Oct. 30.—The Winnipeg Electric Ry. will be permitted by the city temoprarily to charge a flat 5c fare, except for children's and workmen's tickets, which will be sold at 8 and 6 for 25c respectively. An exhaustive investigation of the company's business is to be made by the Public Utilities Commissioner to establish whether the increased rates are to be permanent. The city's action will avert the threatened strike of motormen and conductors, set for Friday.

Ottawa Car Stops.—The Ottawa Board of Police Commissioners issued the following statement Oct. 4: "In view of the representations made to this board by the Ottawa Electric Ry., that by the terms of the contract between the city and the company, the company is required to stop their cars over the last crossing of street intersections, and that the company is willing to make the desired change if requested so to do by the city council, the board decided to suspend the operation of the bylaw in the meantime, in order that the company may obtain the consent of the city council to the change recommended by the board."

The Hydro Electric Power Commission for Ontario has ordered a no. 2, double end, double track snow plough, equipped with flanges for right or left hand running, from Canadian Car & Foundry Co., for delivery early in December. The plough will have a clearance height of 15 ft., and is being built at the company's Amherst, N.S., works.

The Pictou County Electric Ry. was reported recently as contemplating closing down its electric railway in Nova Scotia, owing to shortage of fuel for its power plant.

Electric Railways' Service-at-Cost Campaign for Ontario.

Herman H. Pitts, of Ottawa, one of the Toronto Ry. directors, has, as Secretary of the Association of Holders of Public Utility Securities, issued the following circular to shareholders of the Toronto Ry. and other electric railways in Ontario:—

"In view of the increasing difficulty of financing street railways in Ontario and of giving the public adequate service, and also in view of the expiring franchises bringing the whole subject of urban transportation before the public for immediate action, it has been decided to form an association of Ontario Public Utility Security Holders. The object of the association is to interest all bond and stock holders in a campaign of publicity as to the actual conditions prevailing and to promote a plan to meet the emergency. The co-operative scheme, or as it is usually called, 'Service-at-cost,' has proved to have in it the remedy. It is fair and equitable to all parties. It gives all the advantages of public ownership while eliminating all the defects. It guarantees the shareholders a fixed rate of interest, provides for necessary improvements and extensions and offers efficient and economical management.

"Under separate wrapper will be found a number of copies of a brief summary of the plan. Your assistance would be appreciated in securing as many as possible of the officials of your financial institutions, business men, and all persons holding shares or bonds of any public utility, as members of this association, and as endorsing the service-at-cost plan as set forth in the summary sent you. It is therefore suggested that if you approve of the policy in view by this association that you should sign yourself and have signed by other holders of public utility securities the enclosed list of membership. This is done for the purpose of grouping together the thousands of such securities who are now represented by a comparatively small number of companies, but who count in the thousands, and whose moral support and personal sympathy and propaganda are of paramount usefulness in an educational campaign of such magnitude and importance. When signed, please return the lists to me."

The form which recipients of the circular are asked to sign is headed:—"We, the undersigned, are in full sympathy with the Association of Holders of Public Utility Securities, more especially with its object of promoting service at cost, through a wide educational campaign, whereby the public may be impressed with the advantages of this system or of any other modern and progressive policy of co-operation between the public utility owners and the public they serve. It is understood that no financial obligation in any way attaches to my membership in this association."

The following printed matter was enclosed with the circular:—

How Will Service-at-Cost Affect Street Railways?

Investors in public utility securities in Ontario are facing a very grave situation, due to the abnormal conditions created by the war, and other causes. Especially is this felt by shareholders in street railway companies, who see their securities dropping in value, and the cost of operating the roads steadily increasing, while the revenue remains practically stationary. Expiring franchises in nearly every city, and a propaganda for municipal ownership, bring the question forward for immediate solution. In this connection Canada is no different from the United States, where for several years the street railway situation has been acute, and war conditions have made it obligatory in many cases for state legislatures to step in and pass special legislation to enable the companies to increase their fares, and thus prevent insolvency, and a complete collapse of the systems.

Probably no state in the Union was more affected than that of Massachusetts, where the electric railway systems were in such a desperate condition that state remedy had to be applied at once. A special commission was appointed by the commonwealth to make a thorough investigation on the problems relating to street railways, and after a most exhaustive inquiry into facts, and investigation of all the details of operation and management, the commission made a full report on Feb. 1, 1918, recommending the adoption of a co-operative plan, which it designated service-at-cost. As their conditions were so similar to those in Ontario, and their recommendations so well adapted to the needs of the times here, they are worthy of special consideration. The commission sets forth its findings as follows:

1. The establishment of a sliding scale of fares, so arranged that when the schedule of fares in operation does not yield a revenue sufficient to pay the cost of the service the next higher schedule of fares shall become effective, and so that when the fares yield a revenue greater than the cost of service a corresponding decrease in the rate of fares shall be made.

2. The creation of a reserve fund, which shall be raised by each street railway accepting this plan, and which shall serve as a balance wheel on the system, so that a rapid fluctuation of fares, due to seasonal or other conditions, may be eliminated.

3. The establishment of a depreciation and maintenance fund, so that the street railway properties shall be kept up at all times to the proper operating efficiency, and so that new and improved types of equipment may be purchased as the art of street railroading advances.

4. Provision for the rehabilitation, extension, and improvement of lines during a period of years following the acceptance of this plan.

5. A director to be appointed by the Governor of Massachusetts to the board of directors of each street railway operating under this plan.

6. Supervision of the street railways accepting this plan by district representatives, appointed by the Governor or by the Public Service Commission; these local supervisors to report to the Public Service Commission or to a special department thereof; the expenses of such supervision to be borne by the street railway companies but in no case to exceed a certain fixed percentage of the operating expenses of the individual companies.

7. Provision for arbitration proceedings relative to certain conditions which might arise.

8. Provision whereby the state, or any political subdivision thereof, may purchase the entire property of a company, accepting this plan at its determined investment value, or under any other provision of existing or future statutes.

9. A return to the investors of 6% a year on a fixed investment value, the amount of such investment value to be determined by the Public Service Commission, and to include such sums as have been prudently and honestly invested and conserved with proper diligence, due consideration being given to the present physical condition of the property; the investment value from time to time to be increased by such sums as the Public Service Commission shall certify have been prudently spent and are properly chargeable to capital.

10. The acceptance of such a plan to be optional with the individual companies.

11. Legislation allowing the Boston Elevated Ry. (including its leased lines) to accept this plan.

12. In case the service-at-cost plan is accepted by any street railway company, such funds as the Public Service Commission shall consider necessary for the establishment of the reserve, depreciation, and rehabilitation funds, or for improvements immediately necessary shall be raised by an issue of capital stock, either preferred or common.

How Service-at-Cost Has Benefited the Cities Where Adopted.

Every city adopting service-at-cost sends the same answer; i.e., that it has established the value of tramway securities, and the credit of tramway companies, making it possible for the companies to rehabilitate their roads, make needed extensions, and give a more satisfactory service. It has furnished the public with what they have been demanding, and they have only had to pay for the actual service they have received. It has given the public control of their street railway systems just as fully as if they had been municipalized. It has given experienced management, and transportation at actual cost, and at the same time doing away with long-term franchises, thus making it possible for the municipalities to purchase the entire system without any delay, and at a fair value, at any time they feel so disposed.

It is difficult to conceive of more bitter opposition than existed against the tramway companies a few years ago in those United States cities now under the service-at-cost system. This hostility has been entirely changed, and the public now feel the railways are being run in their interest to supply their needs.

In Massachusetts several acts were passed this year, embodying the principles set forth in the Public Service Commission report. The railways at once came under the acts, and have already secured the confidence of those they serve.

It is quite evident something must be done at once in Canada to relieve the intolerable situation, caused mainly by the war. Service-at-cost is commended to your careful study and endorsement, as the solution. It is the only scheme so far presented that deals fairly, honorably, and reasonably with all parties. It has had the hearty endorsement of the press, boards of trade, municipal councils, and other public bodies in the United States. It is making good. In operation it has been accepted with satisfaction by all concerned.

Ernest P. Fredericks, who had charge of the service-at-cost campaign in Massachusetts, as Publicity Manager for the

Association of Owners of Massachusetts Street Railway Securities, has been engaged to take charge of the Ontario campaign and has opened an office in Toronto.

The Winnipeg Electric Railway's Management.

The Winnipeg Free Press of Oct. 2 said:—"It is just twelve months ago since A. W. McLimont assumed the office of General Manager of the Winnipeg Electric Ry. Under his administration good progress has been made towards improving the street car service of Winnipeg, and to this end he has built up an organization which has for its one purpose the supplying of a service equal to the demands of the public. The year of administration is featured not only with improved car service, but also improved public relations, there being a more cordial feeling between the company and the public authorities today than has been the case in the past. This is due in large measure to the new organization, which is imbued with the desire to co-operate with the public.

"In addition to introducing a number of innovations, such as reconstruction of rolling stock, and the provision of trailers, Mr. McLimont is making the utmost effort to bring the service up to the maximum efficiency. During the past year he has co-operated with the city parks board, with a view to popularizing the city parks, and it is stated that as a direct result of his policy more Winnipeg people flocked to the parks for recreation and health giving exercises this year than has been the case ever before. The opening of River Park is but a part of the programme Mr. McLimont hopes to carry into effect in this regard next summer."

Electric Railway Projects, Construction, Betterments, Etc.

Brantford Municipal Ry.—At the Brantford, Ont., City Council's meetirg, Oct. 15, notice was given of the introduction of a bylaw to provide for raising $100,000 by debentures to extend the street railway tracks in the Terrace Hill district, the bylaw to be submitted for the ratepayers' approval at the municipal elections Jan. 1. The estimated cost of the proposed extension is $28,000 a mile, exclusive of equipment. The exact route has not been finally determined.

British Columbia Electric Ry.—The Vancouver City Council is reported to have granted a permit for considerable alterations and some new construction at the company's station on Carroll St. The estimated cost of the work is $5,000.

Moose Jaw Electric Ry.—At a meeting of the Moose Jaw, Sask., City Council, Oct. 7, a letter was read from A. H. Dion, Superintendent, Moose Jaw Electric Ry., stating that the question of repairs to the South Hill bridge would be considered by the directors at an early date. Several suggestions were made in regard to the matter, and it was agreed to call a special meeting to consider the whole question. Several of the aldermen expressed the opinion that the city might repair the bridge to make it safe for traffic, while others contended that the only solution of the difficulty was to make a new contract with the company. (Aug., pg. 348.)

Regina Municipal Ry.—Commissioner Thornton is reported to have informed the Regina, Sask., City Council, Oct. 1, that the cost of maintenance and upkeep of the overhead system of the municipal railway for the first eight months of this year was $1,835.09, against $1,747.27 for the same period of 1917, and $1,199.20 for the same period of 1916. The amount spent for material during this year was 10% less, and cost of labor was 10% more than for 1917. (July, pg. 308.)

Toronto & York Radial Ry.—We are officially advised that the company is contemplating building a small car barn for its Scarboro division, in the Scarboro Tp. (Jan., pg. 32.)

The Regina Municipal Railway Investigation.

Judge Hannon, who completed hearing evidence into conditions on the Regina Municipal Ry., at Regina, Sask., Sept. 16, presented his report to the city council Oct. 15. The extent and scope of the investigation were given in detail in Canadian Railway and Marine World for July, pg. 305. All the evidence available was secured prior to the close of the investigation, the only other possible witness, Dr. Rose, being overseas. In his report Judge Hannon refers to the fact that an effort was being made to get the evidence of this witness, and states "when that has been laid before me, I shall forward it to you with such further comment as is necessary."

The report, a lengthy one, deals in detail with the ten questions submitted for consideration. A summary of the answers to these questions shows that while there were three sources of suspicion, there was no evidence to show that tickets were improperly used; that there had been no gross carelessness in the handling of tickets, and that if there was any illegitimate use of tickets at all, it must have been of the smallest and most limited proportions. So far as the system of accounting is concerned, the finding is that it was put in force by the City Treasurer's department, from which a slight variation was made in 1915. Since the beginning of this year, certain changes had been made in the method of dealing with the apportionment of the contents of fare boxes where a car is being transferred from one run to another without the fare box being changed, and also in regard to the burning of tickets daily instead of three times a week. The report says that mechanical and traffic conditions are highly satisfactory, especially in comparison with systems of corresponding size, and particularly with reference to the basic conditions under which the Regina Municipal Ry. is operated; additional car bar accommodation, especially for repairs, is desirable, and an auto repair truck for overhead work might be usefully employed, but present financial conditions are not favorable to providing them. The stationing of inspectors at central points would require the employment of more inspectors. The management agreed that the suggestion of having inspectors more accessible than at present is both feasible and desirable, and the judge expressed the hope that it would not escape their attention when financial conditions were more favorable. A point not covered by the question submitted had to do with the fact that there is no service direct to the front of the union station, and Judge Hannon said the matter should be closely watched with a view to arranging for such a service.

There is not the faintest hint, says Judge Hannon, of the lessening to any appreciable extent of the efficient operation of the system by the attitude of the management to the men, nor is there a lack of co-operation or a spirit of disloyalty on the part of the men, engendered by lack of confidence on the part of the council or the public or otherwise to the management. In detail, the judge paid a very high tribute to the whole body of employes, and added: "Such men as these, loyally supporting the capable management, will give the best that can be given by the R.M. Ry., and I think the public should know the fact." Judge Hannon pays a special tribute to Superintendent Houston and Commissioner Thornton. Of the former he says: "From what I saw of him, and more particularly from what I gathered from the stories of his men, and from the evidence as a whole, I came to the conclusion that he is a very competent, careful, well-balanced, prudent and just manager, and I believe that the longer he remains in control the greater will be the trust and confidence reposed in him by his men and the citizens of Regina." In regard to Commissioner Thornton, the judge says: "The city possesses in him an invaluable man, of the purest motives and the highest qualities, who is rendering daily a quality of service for which he can never be adequately recompensed."

The judge points out that the situation offers an opportunity for a man who would appear great in the eyes of the ratepayers to start out and abuse everything about the line, and adds that if any of Regina's public men took this course and made the railway the football of municipal politics, they would be doing it all the harm they could possibly do.

No officer, servant or employe of the street railway, or anyone connected in any way therewith, has been guilty of dishonesty, negligence or incompetence in the discharge of his duties.

It was intended that expert evidence was to have been given, but this was not available, beyond what came from employes of the department. The judge expresses the opinion that upon the evidence laid before him a very excellent showing was made under very difficult circumstances in the effort to get the very largest revenue consistent with giving satisfactory service. As to possible improvements, he had no doubt such questions as one-man cars, skip stops, higher rates, etc., were under the careful consideration of the management and of the council.

In conclusion, he said: "There are numerous sources of legitimate pride in this utility. There is a good overhead system, well maintained; there is an excellent roadbed of superior construction; there is a good car equipment; there is an excellent, eminently trustworthy, capable management; there is a splendid body of employes; in adverse conditions a very fine and increasing profit over operating expenses has been made; at the same time a very reasonably satisfactory service has been maintained. The individual citizen, if he turns his mind that way, will think of other sources. Let us take a pride in our own street railway."

The British Columbia Electric Ry. is reported to have agreed to carry free all returned soldiers who have lost an arm or leg.

The Ottawa Electric Railway's Franchise.

T. Ahearn, President, is reported as having said in a recent interview: "The company has taken the position that with the franchise expiring in 1923, it is not reasonable that we should, at this late date, be expected to make further extensions which would entail large capital expenditure. We have before stated that if the corporation wants further extensions, it should, as early as possible, determine the policy that will be finally adopted in dealing with the street railway question. But if this determination is left until the expiration of the franchise, the company would not be warranted in making extensions then any more than today, because the Railway Act provides that if the City of Ottawa does not acquire the physical assets of the railway, as provided in the contract, the franchise will automatically continue for a further period of 5 years. So that, at present the company has five years franchise in sight, which, as I have stated, does not warrant us in making any large capital expenditure, and at the expiration of the franchise if the city does not take the property over, a further term of five years will be in sight, which in turn will not warrant any large capital expenditure. It is obvious therefore to any reasonable person that the city should determine what it is going to do, rather than permit the situation to drag along, approximating a stalemate. The company's object in suggesting the appointment of a committee was to provide the city council with a practical suggestion that would enable it to get somewhere, but as I said before, with the municipal elections near, there will be nothing doing."

Working Men's and Women's Tickets in Quebec.—The question of what is a "workman," who is entitled to travel on an electric railway on a reduced fare, where such is in force? has been raised in the City of Quebec. The Quebec Civil Code says: "The word 'workman' means artizan and all those in general who earn their living by manual labor." This is the meaning which the Quebec Ry., Light & Power Co. put on the term when it granted a reduced fare for workers' tickets for men. The city council having specially requested that these tickets be sold to women as well as men, the company complied, but it limits them to what it considers bona fide working women, and does not include clerks in stores, banks, etc., stenographers, typewriters, saleswomen, etc. The company is said to be considering cancelling the privilege given to working women, as it is being abused, practically all females wanting to use the tickets between 6 and 8 a.m. and 5 and 7 p.m. on week days. The original reason for giving a special workmen's rate was for the purpose of creating travel at times when there was practically no other business, and when such traffic could be confined to a few special routes. These considerations do not prevail to the same extent as they did 20 or more years ago.

Owing to the epidemic of Spanish influenza, street car service in every city in Canada has been affected. In Regina and Moose Jaw, Sask., and Calgary, Alta., the service was entirely suspended on Sunday, Oct. 20.

Toronto Ry. had 1,284 employes at the end of September, against 1,635 at the same period of 1917.

Mainly About Electric Railway People.

F. M. Shaw, of the accountant's department, Moncton Tramways, Electricity & Gas Co., died at Moncton, N.B., Oct. 15 from pneumonia.

G. Gordon Gale, Vice President & General Manager, Hull Electric Co., has recovered from an attack of pneumonia. One of his brothers died of double pneumonia in Quebec, Oct. 20.

T. L. Robinson, who was in charge of the remodelling of the cars and trucks of the Winnipeg Electric Ry., and prior to that was in McGuire-Cummings Mfg. Co.'s service in Chicago, Ill., died in Winnipeg recently from influenza.

H. C. Foss, a former Manager of the Cape Breton Electric Co., Sydney, N.S., and latterly acting Manager, Savannah

A. Gaboury,
Superintendent, Montreal Tramways Company, and Vice President, Canadian Electric Railway Association.

Electric Co., Savannah, Ga., has been appointed acting District Manager, Southeastern District, Stone and Webster Corporation.

W. H. Moore, who resigned the secretaryship of the Canadian Northern Ry. recently, as stated in Canadian Railway and Marine World for October, continues as General Manager, Toronto & York Radial Ry. He has removed his office from the C.N.R. Building, Toronto St., to the Mackenzie-Mann new offices, 43 Victoria St.

A. C. Johnstone, accountant, Chatham, Wallaceburg & Lake Erie Ry., died at Chatham, Ont., from pneumonia, Oct. 5. He was born at Edinburgh, Scotland, in 1875, and first entered railway service in Winnipeg, as office boy to D. B. Hanna, now President, Canadian Northern Ry. He was subsequently, for some time, in service in Buffalo, N.Y. In 1913 he entered C.N.R. service at Toronto, and in 1915, transferred to C.W. & L.E.R. service, as accountant at Chatham, Ont.

Zone Fares for Increased Revenues.

Canadian Railway and Marine World for September contained a suggestion from a correspondent, regarding the adoption of a zone system of fares on electric railways, with the idea of increasing the revenue. This matter was received some time ago, but owing to lack of space it was not published earlier. It is, however, of interest to note that the question of zone fares is being taken up by several companies in the U.S., and permission for its adoption is being sought. Canadian companies are largely restricted in the matter of fares, by agreements with municipalities, under which increased revenue can only be obtained by carrying an increased number of passengers, thus entailing an increased number of cars to operate, with all the attendant expenses. Even if permission be obtained to increase the unit fare, the increase allowed might be by no means sufficient to make up for the extra cost of operation; in fact, it is contended by many that from all points of view, the flat rate fare is entirely wrong in principle, and should be completely wiped out.

The United Railways of St. Louis applied recently to the Missouri Public Service Commission, for permission to make a test of a three zone system with a minimum 5c fare in the central area, as in the company's opinion, a further increase in unit fare would discourage short haul traffic and involve a clumsy fare arrangement, while the zone system as proposed is the fairest and entirely practicable. Some few months ago this railway was authorized to increase the unit fare from 5c to 6c, and a comparison of the receipts for two months ended July 31 this year and last, showed that under the increased unit fare, there was an increase in revenue of 14%, and a decrease in revenue passengers of 4%. On this basis, taking into consideration increases in wages, and operating generally, there will be a considerable deficit for 1918, after allowing 6% on the commission's valuation of the property in St. Louis. It will be noticed that a 20% increase in fare only resulted in a 14% increase in revenue, and it is natural to assume that the decrease in revenue passengers occurred in the short haul traffic, where, undoubtedly, the passenger is penalized. Any further increase in the unit fare would further decrease the short haul traffic.

The zone system suggested by the St. Louis company provides a minimum fare of 5c on the city lines, which form one zone, the other fares being adjusted equitably to provide sufficient revenue, and should it be discovered after experiment that some further adjustment of fares becomes necessary in the second and third zones, this could be carried out without interference with the zones, or the zone limits might be changed without changing the minimum 5c fare. The rates of fare are suggested as follows: In any one zone, including free transfer in that zone, 5c; in two zones, including free transfers in the two zones, the second rate of fare; in three zones, including the entire city, with free transfers to any part of the city, the third rate of fare. The company claims that a practicable scheme can be worked out, and that it has many advantages over the flat rate system, the short riders being taken care of at the minimum fare and the long rider paying for his ride somewhat in proportion to the cost of service provided. It is pointed out that it is difficult to predict the financial result of such a change, as at first it might produce insufficient revenue, or the reverse.

Electric Railway Finance, Meetings, Etc.

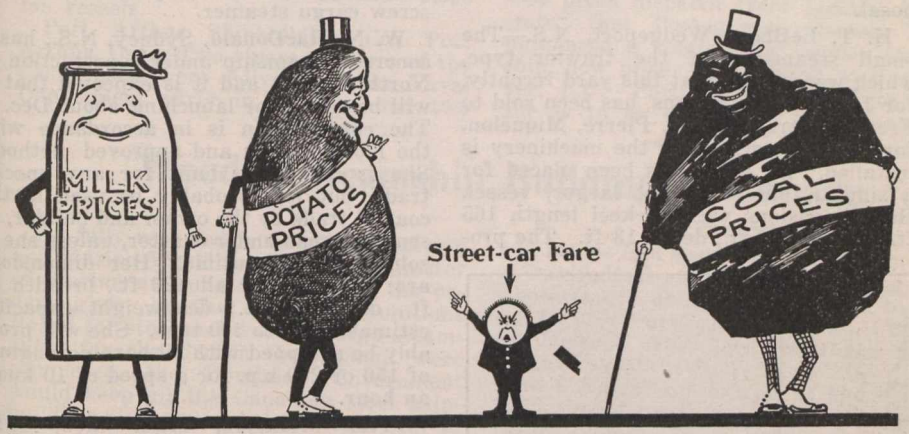
British Columbia Electric Ry. and subsidiary companies:—

	Aug. 1918	Aug. 1917	2 months Aug. 31, 1918	2 months Aug. 31, 1917
Gross	$544,339	$454,425	$958,307	$892,803
Expenses	455,903	396,168	850,706	776,222
Net	88,436	58,257	107,601	116,581

Calgary Municipal Ry.—A press report states that at the end of August the C.M.R. had a surplus on the operations for this year of $7,284.90, against a deficit of $19,368.18 for the same period of 1917. The report adds that the 4% tax placed on the utility in June by the city council will eat up practically all this surplus; that the average fare per passenger has decreased from 4.206c to 3.994c, and concludes:—The railway has carried 893,856 more passengers this year than last, it has run 233,547 more miles than it had at this time last year, and operated 24,852 hours longer than last year. Average daily receipts have increased by $301.28, while on the opposite side of the sheet, average daily operating expenses have gone up by $175.93, and average daily fixed charges have been raised by the amount of $184.08. The total operating expenses show an increase of $43,552.67 over 1917, while additional in the expenditures are $10,594 for improvements at Bowness Park and in wages for motormen of passenger and freight cars, and car, house and service employes, there has been a raise of $40,702 over 1917.

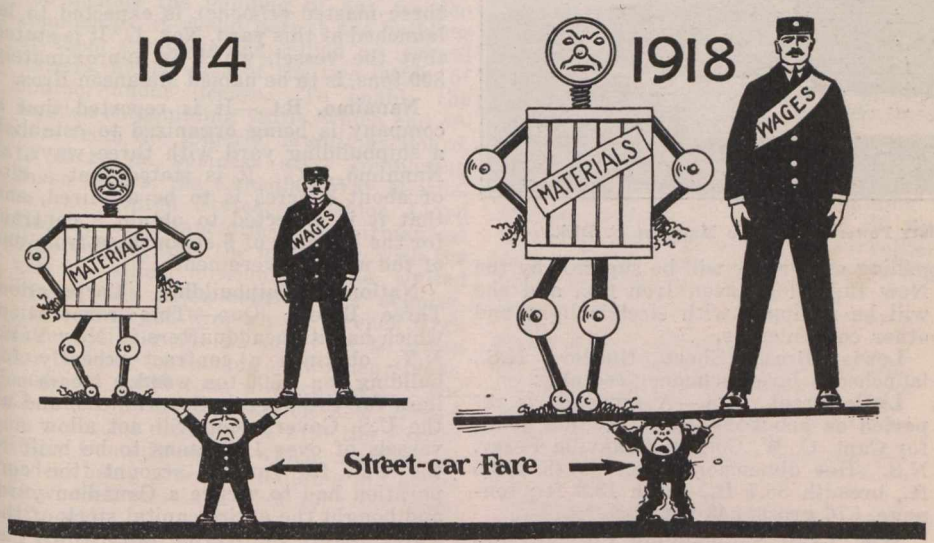
Cape Breton Electric Co.—

	Aug. 1918	Aug. 1917	12 months to Aug. 31 1918	12 months to Aug. 31 1917
Gross	$44,716.17	$39,683.58	$495,112.55	$437,604.84
Exp.	33,745.61	26,667.13	356,036.62	266,661.66
Net	10,970.56	13,016.45	139,075.93	170,943.18



Why single out the street car ride as the ONLY commodity not allowed to increase in price with the cost of production?

12,000,000 PEOPLE NOW PAY 6 CENTS FOR A STREET CAR RIDE



Since 1914 the cost of materials used in the street car service has gone up 102 per cent; of wages 60 to 80 per cent.

PEACE-TIME FARES CANNOT PAY WAR-TIME STREET RAILWAY EXPENSE

British Columbia Electric Railway, Car Advertisements.

The above are reproductions of two cards which the British Columbia Electric Ry. is using in connection with its six cent fare campaign.

London Street Railway.—

	Sept. 1918	Sept. 1917
Gross	$40,837.93	$38,140.92
Expenses	36,288.08	28,719.07
Net	4,549.85	9,421.85

Montreal & Southern Counties Ry.—The directors for the current year, elected at the annual meeting recently, are: H. G. Kelley, President; Frank Scott, Vice President and Treasurer; J. E. Dalrymple, Vice President; J. A. Yates, Secretary; W. H. Ardley, Comptroller; W. H. Biggar, General Counsel. W. B. Powell is General Manager.

Montreal Tramways Co.—A press report of Oct. 17, stated notice had been given the Montreal Stock Exchange that the directors had decided to defer the declaration of a dividend for the three months ended Sept. 30, until the new fares had been given time to take proper effect. The declaration of a dividend for the quarter ended June 30 was deferred pending the Quebec Public Utilities Commission's decision as to fares. The new schedules of fares only came into operation Oct. 3, consequently revenues for the quarter ended Sept. 30, were on the same basis as those for the quarter ended June 30.

Oshawa Ry.—The annual meeting was held at Gananoque, Ont., Oct. 4. The officers for the current year are: E. W. Rathbun, President; H. W. Cooper, Manager; J. H. Valleau, Secretary and Treasurer.

Regina Municipal Ry.—The city auditor's report for the 9 months ended Sept. 30, shows that there was a deficit in the operation of the railway of $42,405.18. The City Treasurer estimated that the total deficit of the railway for the year would be $46,824.82.

Toronto Civic Railway.—

	Sept. 1918	Sept. 1917	9 months to Sept. 30 1918	9 months to Sept. 30 1917
Receipts	$29,347.89	$24,029.23	$86,364.94	$70,928.60
Passengers	1,759,023	1,426,775	5,169,790	4,226,947

Toronto Railway.—

	Earnings. 1918.	Earnings. 1917.	City percentage. 1918.	City percentage. 1917.
Jan.	$562,707	$510,052	$ 84,406	$76,508
Feb.	509,650	473,185	88,763	70,978
Mar.	575,957	531,080	115,191	105,876
Apr.	543,055	510,335	108,611	102,067
May	548,778	510,778	109,756	102,174
June	533,393	499,732	106,679	99,946
July	540,296	467,382	108,058	93,476
Aug.	555,709	516,967	111,142	103,393
Sept.	571,637	532,008	45,731	42,561
	$4,941,182	$4,551,611	$878,337	$796,979

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

	Aug. 1918	Aug. 1917	2 months Aug. 31, 1918	2 months Aug. 31, 1917
Gross	$1,070,567	$1,039,819	$8,476,672	$7,867,595
Expenses	591,507	591,013	4,636,884	4,172,715
Net	479,060	448,806	3,839,788	3,694,880

Winnipeg Electric Ry. and subsidiary companies.—

	Aug. 1918	Aug. 1917	2 months Aug. 31, 1918	2 months Aug. 31, 1917
Gross	$288,974	$248,457	$2,388,467	$2,164,624
Expenses	217,226	208,000	1,820,973	1,657,923
Net	71,748	39,457	567,494	506,701

The surplus after deduction of fixed charges, for August, was $15,296.40.

The Hamilton & Dundas Ry. is being sued for damages by the Town of Dundas, Ont. In 1918, owing to some flooding of the line, the company built a new cut from its tracks near Dundas to the Desjardins Canal. The town claims that this deviation of the water to the canal has done serious damage to boat traffic, one boat owner having claimed and received damages from the town. The company moved Sept. 26 to have certain paragraphs in the statement of claim struck out, and certain amendments were made by Judge Gauld, Sept. 30. The company was given a reasonable time to file its defence.

The American Electric Railway Association's executive committee decided recently that in view of the conditions prevailing in the industry, necessitating the presence on their property of all electric railway men, the 1918 convention be abandoned. The question of holding a conference of executives, should this be deemed necessary, was left for the executive committee's future consideration.

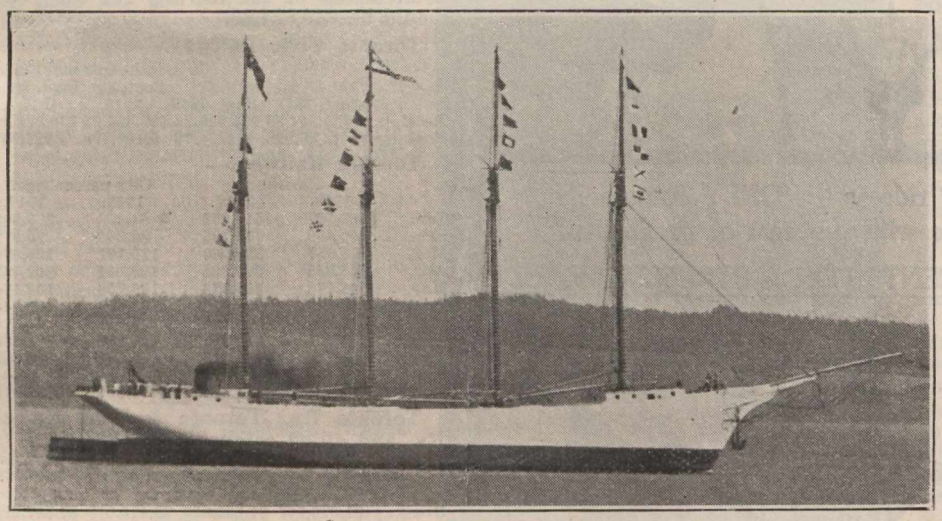
Marine Department

General Shipbuilding Notes Throughout Canada.

G. Beveridge, Central Chebogue, N.S., is stated to be considering building a 100-ton fishing schooner for his own use, and a freight schooner for the local trade.

Omer Blinn, Gross Coques, N.S., has launched the schooner Mollie and Melba, for J. E. Gaskell, Grand Manan, N.B. Her dimensions are: length over all 155 ft., length of keel 120 ft., beam 34 ft., depth 12½ ft.; 389 tons register. A similar schooner, but of somewhat larger dimensions, is under construction at the yard for F. K. Warren.

Bridgewater Shipbuilding Co., Bridgewater, N.S.—The schooner Edith Dawson, named after the daughter of the company's President, was launched Oct. 16. The vessel is three masted, and of the following dimensions: keel 133 ft., beam 33½ ft., depth of hold 13 ft.; tonnage, 446 net. Another schooner of 300 tons is under construction at the yard, and an additional vessel will be laid almost immediately.



British Colonies Transportation Co.'s Auxiliary Powered Schooner Margaret F. Dick.

Canadian Car & Foundry Co.—In publishing an illustration of the French mine sweeper Navarin in our October issue, she was mentioned as having been built by the Port Arthur Shipbuilding Co., instead of by the Canadian Car & Foundry Co. at Fort William, Ont., as should have been stated.

Cholberg Ship Yard, Victoria, B.C.—Work is proceeding on the two keels which were laid here early in September. The third shipway has been graded and timbered, and the third keel was expected to be laid during October. A fourth shipway is to be built alongside the first. An overhead system is to be installed for the distribution of materials to vessels under construction, and a wharf with derrick for handling ships' timbers from the water, has been completed.

J. Coughlan & Sons, Vancouver, B.C.—A new machine shop, pipe and coppersmith's shop, joiner, carpenter and paint shops, have been added to this plant recently, and 2 additional finishing berths have been completed. capable of taking vessels up to 450 ft. long. John Lockhart is General Manager.

H. W. Embree & Son, Halifax, N.S., are reported to be building two auxiliary powered vessels on the same lines as the National I, launched recently.

Esquimalt, B.C.—A press report states that negotiations are in progress for the establishment of a wooden shipbuilding yard to build auxiliary powered schooners, and that Hind Rolph Co., of San Francisco, Cal., is interested in the proposal.

H. T. LeBlanc, Wedgeport, N.S.—The small steamship of the trawler type, which was launched at this yard recently, for J. N. Rafuse & Sons, has been sold to French interests at St. Pierre, Miquelon, for delivery as soon as the machinery is installed. An order has been placed for a similar, but somewhat larger, vessel. Her dimensions will be: keel length 165 ft., breadth 25 ft., depth 13 ft. The propelling machinery will be supplied by the New Burrell Johnson Iron Co., and she will be equipped with electric light and other conveniences.

Lewis Bros., Sheet Harbor, N.S., launched a large schooner recently.

Little Brook, N.S.—A schooner is reported as about completed at this point, for Capt. C. W. Collins, Granville Ferry, N.S. Her dimensions are: length 163.6 ft., breadth 35.7 ft., depth 13.3 ft.; tonnage, 576 gross, 543 net.

Wm. Lyall Shipbuilding Co., Vancouver, B.C.—The second wooden auxiliary powered schooner to be built on the company's own account, was launched, Oct. 16, and named Alice Beauclerc, by Miss Dorothy Langford, a niece of F. W. Peters, General Superintendent, British Columbia District, C.P.R. The first vessel of this type to be built by the company, was launched at the end of September, and named J. N. Greenshields. These are 5 masted vessels, equipped with Diesel engines, and with deadweight capacity of 2,500 tons. The dimensions are: length 235 ft., breadth 44.8 ft., depth moulded 20.6 ft.

Wm. Lyall Shipbuilding Co., North Vancouver, B.C.—The city council has approved of a lease, at a nominal annual rent, of land under water for 500 ft. from the shore line into the Inlet, from the end of Bewicke Ave., to the company, for shipbuilding purposes. It is stated that a wharf is to be built in connection with the vessel outfitting plant to be installed there.

The company has, in accordance with subsection 5 of section 15 of the Copyright Act, registered with the Trade and Commerce Department, Ottawa, an interim copyright of the plans for a twin screw cargo steamer.

W. N. MacDonald, Sydney, N.S., has a concrete steamship under construction at North Sydney, and it is expected that it will be ready for launching about Dec. 1. The construction is in accordance with the most modern and approved methods. She is not being built for any special trade, but will probably be used in the coastal trade by the owner and builder, or sent overseas under charter, unless she is sold in the meantime. Her dimensions are: length over all 126 ft., breadth 27 ft., depth 12 ft.; deadweight capacity, estimated 450 to 500 tons. She will probably be equipped with oil burning engines of 150 or 200 h.p. for a speed of 10 knots an hour.

Peter McIntyre, Moss Glen, N.B., launched a three masted schooner recently which is stated to be the first one to be launched on the Kennebecasis River for 27 years, the last one being built and launched by the same man.

Melanson Bros., Gilberts Cove, N.S.—A three masted schooner is expected to be launched at this yard, Nov. 1. It is stated that the vessel, which is approximately 800 tons, is to be named Melanson Bros.

Nanaimo, B.C.—It is reported that a company is being organized to establish a shipbuilding yard with three ways, at Nanaimo, B.C. It is stated that a site of about 8 acres is to be acquired, and that it is expected to obtain a contract for the building of 6 steamships from one of the allied governments.

National Shipbuilding Corporation, Three Rivers, Que.—This corporation, which has its headquarters in New York, N.Y., obtained a contract recently for building ten 1,500-ton wooden steam colliers for the French Government, and as the U.S. Government will not allow any vessels of over 1,000 tons to be built in the U.S. for foreign account, the corporation had to secure a Canadian yard, and bought the entire capital stock of the Three Rivers Shipyards, Ltd., which has a plant at Three Rivers, Que., taking over the company's uncompleted contract with the Imperial Munitions Board for wooden cargo steamships for the British Government. The corporation has bought 75 acres of land to add to the 75 included previously in the plant and now has a river frontage of about 1,350 ft. within the city limits. Extensive additions of both buildings and machinery are being made and it is intended to build the 10 French vessels simultaneously. About 800 men are employed and it is expected to increase to about 1,500. For the present, business is being continued under the name of the Three Rivers Shipyards, Ltd., but it is the intention to procure a new incorporation under Canadian law. The principal officials of the National Shipbuilding Corporation in the United States are: Newman Erb, President, Ann Arbor Ry., who is Chairman of the Board; and

W. J. Kelly, formerly of the Southern Transport Co., who is President.

North Sydney, N.S.—A 400-ton concrete steamship is under construction at North Sydney, N.S. and it is expected that the launching will take place during November. The dimensions are: length 130 ft., breadth 27 ft., depth 12 ft. It is stated that she is being built specially for carrying coal, but can be adapted for other cargoes. W. N. Macdonald, Sydney, and E. Gillard, North Sydney, are associated with the company responsible for the construction, and it is stated that they are considering the building of a concrete floating dry dock to handle 5,000 ton vessels.

Port Arthur Shipbuilding Co., Port Arthur, Ont.—Two steam trawlers of the Castle class were delivered to the Naval Department early in October, and two more, making a total of 8 during this year, were expected to be delivered before the end of the month, or early in Nov.

St. Martins Shipbuilding Co., St. Martins, N.B., is reported to be building a wooden schooner for lumber cargoes. The vessel will be 141 ft. keel, 35 ft. beam and about 525 tons gross.

A. A. Theriault, Belliveau Cove, N.S., is building a schooner, which will probably be launched early in Jan., 1919. She is of the following dimensions: keel 119 ft., beam 32 ft., depth 11½ ft.; tonnage 350 gross.

Portuguese Vessel Purchase Reported.—A press dispatch from London, Eng., states that Portuguese interests have purchased a single deck wooden steamship, now under construction at Vancouver, B.C. Particulars given state that she is to be classed at Lloyd's and is estimated to a d.w. capacity of 3,500 tons on 22¼ ft. draft, with a speed of 10 knots an hour; dimensions: length 281 ft., breadth 48 ft., depth 27 ft. The price said to have been paid is about £34 a ton d.w. No information appears to be obtainable in Vancouver of this sale. Firms engaged in wooden shipbuilding there are concerned at present with orders for the Imperial Munitions Board, or for the French Government, with the exception of Wm. Lyall Shipbuilding Co., which is building some auxiliary powered schooners of smaller capacity than that stated, for its own account.

W. D. Sweeney, Yarmouth, N.S., is reported to have commenced work on a wooden steamship for St. John, N.B., parties. The dimensions are stated as: length of keel 97 ft., length over all 118 ft., beam 30 ft., depth 12 ft.

Wooden Steamship Building in Canada for French Government.

As fully reported in Canadian Railway and Marine World for May, the Minister of Marine announced that after the orders given by the Imperial Munitions Board for steel and wooden cargo steamships for the British Government were completed, the Dominion Government would keep all the Canadian steel shipbuilding plants occupied for some time to come, in building steel cargo steamships, and that it would not permit any steel vessels to be built in Canada other than for Canadian or British registry. The Minister also announced that as the Government's shipbuilding programme did not include the building of any wooden steamships, it would permit the building of them for Canadian, allied or neutral owners, in the case of the two latter, of course, under license. To enable the wooden shipbuilding yards, which had orders from the Imperial Munitions Board, to carry on business after completing those orders, the Canadian War Mission to the United States, of which Lloyd Harris, of Brantford, is chairman at Washington, took the matter up with the various allied missions to the United States, and after considerable negotiations, arranged through the French High Commissioner for an order to be given for building in Canada 20 wooden steamships of 3,000 tons d.w. capacity. The Canadian War Commission also carried on a second negotiation with the French High Commissioner, which resulted in orders being given for building in Canada 50 wooden vessels of 1,500 tons d.w. capacity each.

The Foundation Co. of New York, N.Y., was given the order for the twenty 3,000-ton steamships, which will be built by the Foundation Co. of British Columbia, Ltd., in its no. 1 yard at Victoria, B.C., and in the yard at Point Ellice, Victoria, which it has taken over from the Cameron-Genoa Mills Shipbuilders, Ltd., and which it has named its no. 2 yard. Keels have already been laid for several of these vessels. Delivery is to be made by Nov. 1, 1919. The general dimensions will be as follows:

Length, over all	293 ft. 2 in.
Length, betwen perpendiculars	276 ft. 0 in.
Breadth, extreme	47 ft . 6 in.
Breadth, moulded	46 ft. 6 in.
Draft, over keel	21 ft. 9 in.
Displacement	about 5,600 tons
Deadweight	3,000 to 3,200 tons
Speed, loaded	about 9 knots

They will be built of British Columbia timber under Bureau Veritas rules and inspection for its highest class. There will be one laid deck, and hold beams, and a longitudinal steel truss extending the whole length of the ship, similar to the s.s. City of Portland and the s.s. City of St. Helens. There will be three 24-ft. hatchways at 22-ft. centers. They will have 3 watertight bulkheads and watertight tunnel platform. They will have 2 Scotch boilers, with a heating surface of not less than 4,000 sq. ft. The main condenser will have 1,750 sq. ft. heating surface. The 2 engines, which will be supplied with steam at 180 lb. per sq. in. pressure, will have 3 cylinders, 13½, 22 and 36 in. diar. by 30 in. stroke, to yield 550 i.h.p. at 115 r.p.m. They will be equipped with electric lighting and wireless telegraph apparatus. While these steamships are spoken of as 3,000-ton ones, their deadweight is likely to be closer to 3,200 tons.

Acting on the French Government's behalf, Anderson & Co., of New York, have placed orders for the building in Canada, within 12 months, of 50 twin screw, well decked, wooden steam colliers, to be used to transport coal between England and France, as follows:—

Davie Shipbuilding & Repairing Co., Lauzon, Que.	12
Fraser, Brace & Co., Montreal	8
Wm. Lyall Shipbuilding Co., North Vancouver	8
National Shipbuilding Corporation, Three Rivers, Que.	10
New Westminster Engineering & Construction Co., New Westminster, B.C.	5
Pacific Construction Co., Port Coquitlam, B.C.	2
Western Canada Shipyards, Ltd., Vancouver, B.C.	5

The 1,500-ton steamships will have the following general dimensions:—

Length over all	204 ft. 6 in.
Length between perpendiculars	195 ft. 0 in.
Breadth, extreme	40 ft. 6 in.
Breadth of beam, moulded	39 ft. 8 in.
Depth, moulded	17 ft.
Depth of hold	15 ft.
Draft over keel	16 ft.

They will be built of wood, under the Bureau Veritas' rules and inspection for the highest class. The hull will be of Douglas fir, one laid deck and hold beams. The usual watertight bulkheads will be provided. There will be three 16-ft. hatchways at 23-ft. centers. They will have long poop, well deck and forecastle. The water tube boiler will have a total heating surface of 2,300 sq. ft. The main condenser will have 900 sq. ft. heating surface. The twin compound engines, of 275 i.h.p. at 175 r.p.m., will have cylinders 12 x 24 in. diameter, by 16 in. stroke. They will have twin screw and will be lighted by electricity and equipped with wireless telegraph apparatus.

The Dominion Marine Department has granted licenses for the building of the steamships above mentioned for French registry.

The inspection of the building of these vessels will be in charge of R. H. Laverie, Chief Inspector for Bureau Veritas in the U.S. and Canada; and his assistants, R. S. Haight, Assistant Chief Inspector, and Capt. Ed. Patry, Chief Engineer to the head office, Bureau Veritas, and acting Chief Engineer in the U.S. The inspection work at the different yards locally will be attended to as follows: Lauzon, Que., Mr. Russell and Mr. Samson, engineer; Three Rivers, C. Ducquette; Montreal, T. Jardine and his assistants. Mr. Jardine will also inspect the machinery installation at Three Rivers. In British Columbia, Frank Walker, Principal Surveyor, Bureau Veritas, for Seattle and British Columbia, will act as consulting advisor. The actual work will be supervised by Mr. Davis, and assistants when needed.

The Anderson Co., New York, has also given orders, on behalf of Belgian interests, for building 10 wooden steamships, steel braced, of about 3,200 tons d.w., the orders being placed as follows: New Westminster Construction & Engineering Co., New Westminster, B.C., 3; Pacific Construction Co., Vancouver, B.C., 2; Western Canada Shipyards, Ltd., Vancouver, 4. Their principal dimensions will be as follows:

Length between perpendiculars	276 ft.
Beam, extreme	47½ ft.
Beam, moulded	46½ ft.
Depth, moulded	23½ ft.
Draft, loaded	21¾ ft.

Welland Canal Lock Gate Accident.—The Montreal Transportation Co.'s s.s. Oatland, en route from Kingston to Port Colborne, light, is reported to have carried away the two head gates of lock 8 in the Welland Canal, Oct. 23, and was washed back to the lower level, but escaped undamaged. The cause of the accident, as reported, is the old one of mistaken signals between the bridge and the engine room, the master stating that he gave the signal to reverse, whereas the engine went forward with increased speed.

British Colonies Transportation Co., Ltd., particulars of the organization of which were published in Canadian Railway and Marine World for August, has declared a dividend of 2% on preferred stock and 2% on common stock, payable Nov. 1.

Cargo Steamship Building in Canada for British Government.

Boiler Troubles.—The Victoria, B.C., Times published the following on Oct. 5: "Boiler trouble appears to be a chronic malady with the initial ships of the I. M. B. fleet sent to sea. Following the reports reaching here that the War Selkirk had been towed into a southern port in a crippled condition, it has been learned that the War Nootka, the second vessel to be completed, experienced similar trouble on the Atlantic side. An engineer in this city has received the following letter from one of the engine room staff on the War Nootka, which tells its own tale:

"'We arrived here (name deleted) a few days ago; you will thus see, if your imagination is any good, that we have not had a very pleasant voyage. Of course it was only the expected that happened, but I don't think anybody expected it to happen so quickly, or so often. I won't worry you by giving you details of what we have gone through. The time we have been on the voyage, putting into (name deleted) on one boiler, and that absolutely done and 10 days' hard work there with short help, tells its own tale to you. At first we had engine trouble, main and auxiliary. Before seven days we had been at every part of her. Then we began to have trouble. The boilers started; we have 20 tubes stopped up now, and I can tell you the times we went into those boilers, and the heat of them nearly cost three of us our health.'

"The letter goes on to say that the ship will not be allowed to proceed until she has been made all right. The letter contains reference to the War Yukon, which has since been reported at her destination, and concludes with 'We don't see the War Songhee yet.'"

Launchings of Steamships.—Following are particulars of steamships ordered by the Imperial Munitions Board for the British Government, and which had been launched up to Oct. 29, giving in each case the date of the launching, the name of the steamship, the name of the builder and the deadweight tonnage:—

Steel Steamships.

May 18, 1917—	War Dog, Wallace Shipyards North Vancouver, B.C.	4,500
July 9, 1917—	War Wasp, Nova Scotia Steel & Coal Co., New Glasgow, N. S.	1,800
Aug. 19, 1917—	War Fish, Port Arthur Shipbuilding Co., Port Arthur, Ont.	4,300
Nov. 3, 1917—	War Dance, Port Arthur Shipbuilding Co., Port Arthur, Ont.	3,400
Mar. 16, 1918—	War Camp, J. Coughlan & Sons, Vancouver, B.C.	8,800
Mar. 23, 1918—	War Power, Wallace Shipyards, North Vancouver, B.C.	4,600
Apr. 3, 1918—	War Isis, Port Arthur Shipbuilding Co., Port Arthur, Ont.	3,400
May 8, 1918—	War Wizard, Collingwood Shipbuilding Co., Collingwood, Ont.	2,900
May 21, 1918—	War Bee, Nova Scotia Steel & Coal Co., New Glasgow, N.S.	2,400
May 27, 1918—	War Osiris, Port Arthur Shipbuilding Co., Port Arthur, Ont.	3,400
June 8, 1918—	War Earl, Canadian Vickers Ltd., Montreal	7,000
June 29, 1918—	War Duchess, Canadian Vickers, Ltd., Montreal	7,000
July 20, 1918—	War Hathor, Port Arthur Shipbuilding Co., Port Arthur, Ont.	3,400
July 29, 1918—	War Charger, J. Coughlan & Sons, Vancouver, B.C.	8,800
Aug. 19, 1918—	War Chief, J. Coughlin and Sons, Vancouver, B.C.	8,800
Aug. 21, 1918—	War Weasel, British-American Shipbuilding Co., Welland, Ont.	3,500
Sept. 6, 1918—	War Witch, Collingwood Shipbuilding Co., Collingwood, Ont.	2,900
Sept. 19, 1918—	War Taurus, Polson Iron Works, Ltd., Toronto	3,500
Sept. 28, 1918—	War Faith, Canadian Vickers Ltd., Montreal	7,000
Sept. 28, 1918—	War Noble, J. Coughlan & Sons, Vancouver, B.C.	8,800
Sept. 28, 1918—	War Storm, Wallace Shipyards, Ltd., Vancouver, B.C.	4,600
Oct. 5, 1918—	War Horus, Port Arthur Shipbuilding Co., Port Arthur, Ont.	3,400
Oct. 15, 1918—	War Hydra, Polson Iron Works, Ltd., Toronto	3,500
Oct. 24, 1918—	War Fiend, Midland Shipbuilding Co., Midland, Ont.	3,400
Oct. 29, 1918—	War Joy, Canadian Vickers, Ltd., Montreal	7,000
Total 25 steel vessels		121,100

Wooden Steamships.

Dec. 28, 1917—	War Songhee, Foundation Co., Victoria, B.C.	3,080
Jan. 4, 1918—	War Nootka, Western Canada Shipyards, Vancouver, B.C.	3,080
Jan. 24, 1918—	War Yukon, Cameron-Genoa Mills Shipbuilders, Ltd., Victoria, B.C.	3,080
Feb. 16, 1918—	War Puget, Wm. Lyall Shipbuilding Co., Vancouver, B.C.	3,080
Mar. 6, 1918—	War Selkirk, Western Canada Shipyards, Vancouver, B.C.	3,080
Apr. 10, 1918—	War Caribou, Wm. Lyall Shipbuilding Co., Vancouver, B.C.	3,080
Apr. 11, 1918—	War Comox, New Westminster Construction & Engineering Co., New Westminster, B.C.	3,080
Apr. 11, 1918—	War Masset, Foundation Co., Victoria, B.C.	3,080
Apr. 13, 1918—	War Tyee, Pacific Construction Co., Coquitlam, B.C.	3,080
Apr. 25, 1918—	War Haida, Cameron-Genoa Mills, Victoria, B.C.	3,080
Apr. 27, 1918—	War Cayuse, Wm. Lyall Shipbuilding Co., Vancouver, B.C.	3,080
May 11, 1918—	War Mohawk, Quinlan & Robertson, Ltd., Quebec, Que.	3,080
May 11, 1918—	War Sioux, Port Arthur Dredging Co., Port Arthur, Ont.	3,080
May 21, 1918—	War Atlin, Wm. Lyall Shipbuilding Co., Vancouver, B.C.	3,080
May 23, 1918—	War Tatla, Western Canada Shipyards, Ltd., Vancouver, B.C.	3,080
June 12, 1918—	War Skeena, Cameron-Genoa Mills Shipbuilders, Ltd., Victoria, B.C.	3,080
	ertson, Quebec, Que.	3,080
June 14, 1918—	War Edensaw, New Westminster Construction & Engineering Co., B.C.	3,080
June 15, 1918—	War Babine, Foundation Co., Victoria, B.C.	3,080
June 24, 1918—	War Nicola, Wm. Lyall Shipbuilding Co., Vancouver, B.C.	3,080
June 28, 1918—	War Quebec, Quebec Shipbuilding & Repairing Co., Quebec, Que.	3,080
June 29, 1918—	War Ontario, Toronto Shipbuilding Co., Toronto	3,080
July 5, 1918—	War Huron, Fraser, Brace & Co., Montreal	3,080
July 5, 1918—	War Erie, Fraser, Brace & Co., Montreal	3,080
July 6, 1918—	War Casco, Western Canada Shipyards, Ltd., Vancouver, B.C.	3,080
July 12, 1918—	War Sumas, Pacific Construction Co., Port Coquitlam, B.C.	3,080
July 24, 1918—	War Suquash, Wm. Lyall Shipbuilding Co., Vancouver, B.C.	3,080
July 27, 1918—	War Gaspe, Quinlan & Robertson, Quebec, Que.	3,080
July 27, 1918—	War Ottawa, Fraser, Brace & Co., Montreal	3,080
Aug. 5, 1918—	War Chilkat, Western Canada Shipyards, Vancouver, B.C.	3,080
July 29, 1918—	War Stikine, Cameron-Genoa Mills Shipbuilders, Victoria, B.C.	3,080
Aug. 31, 1918—	War Camchin, Foundation Co., Victoria, B.C.	3,080
Sept. 7, 1918—	War Sorel, Quebec Shipbuilding & Repair Co., Quebec	3,080
Sept. 8, 1918—	War Nanoose, Foundation Co., Victoria, B.C.	3,080
Sept. 19, 1918—	War Niagara, Fraser, Brace & Co., Montreal	3,080
Sept. 21, 1918—	War Halifax, Southern Salvage Co., Liverpool, N.S.	3,080
Sept. 22, 1918—	War Nipigon, Great Lakes Dredging Co., Port Arthur, Ont.	3,080
Sept. 23, 1918—	War Matane, Quinlan & Robertson, Quebec, Que.	3,080
Sept. 26, 1918—	War Ewen, New Westminster Construction & Engineering Co., New Westminster, B.C.	3,080
Oct. 26, 1918—	War Toronto, Toronto Shipbuilding Co., Toronto	3,080
Total 43 wooden vessels		132,440

Aggregate deadweight tonnage of 25 steel vessels and 43 wooden vessels, 253,540.

Cameron-Genoa Mills Shipbuilders, Ltd., Victoria, B.C.—The wooden cargo steamships War Skeena and War Haida underwent their trials during the early part of October, the former developing 12½ knots over the measured mile, and the latter about 11 knots an hour. This company is now in voluntary liquidation, and the yard has been absorbed by the Foundation Co., Ltd.

Canadian Vickers Limited, Montreal.—The s.s. War Joy, 7,000 tons, was launched, Oct. 29, by S. H. Watson, a representative of the British Ministry of Shipping, without ceremony. This is the last of 4 steel cargo steamships ordered by the Imperial Munitions Board for the British Government from this company. The s.s. War Faith, which was launched Sept. 28, is loading cargo, and is expected to sail early in November on her maiden voyage.

J. Coughlan & Sons, Vancouver, B.C.—The fourth steel steamship to be built at this yard under order of the Imperial Munitions Board for the British Government, was launched Sept. 28, and named War Noble. She has a deadweight capacity of 8,800 tons.

The steel steamship War Charger, 8,800 tons, which was launched July 29, was expected to be ready for her trial runs during the latter part of October, after which she will be handed over to Raeburn & Verel for operation on behalf of the British Government.

Foundation Co., Victoria, B.C.—The wooden steamship War Babine, launched June 15, underwent her trials in Parry Bay, Oct. 7.

Grant & Horne, St. John, N.B.—In publishing in our October issue an illustration of the s.s. War Fundy, built for the British Government by Grant & Horne, she was mentioned as a steel cargo steamship, instead of a wooden one.

Great Lakes Dredging Co., Port Arthur, Ont.—The wooden steamship War Nipigon, which was launched at this yard, Sept. 22, completed the Imperial Munitions Board's order with this company.

Wm. Lyall Shipbuilding Co., North Vancouver, B.C.—The wooden steamship War Nicola, launched June 24, the fifth of the vessels built for the Imperial Munitions Board, by this company, left Vancouver for a trial trip to Victoria, Oct. 15. She is reported to have answered satisfactorily, making the trip in 6 hr. 10 min., averaging 13 knots an hour.

Midland Shipbuilding Co., Midland, Ont.—The first of the three steel steamships to be built by this company for the British Government under order from the Imperial Munitions Board, was launched Oct. 24, and named War Fiend, by Mrs. D. L. White, wife of the President of the company, and who is also mayor of the town. This is the first steel steamship to be built at Midland. She is 261 ft. long, 43½ ft. beam, and has a moulded depth of 23 ft.; tonnage, 3,400 deadweight. She is to be equipped with triple expansion engines of the surface condensing type, developing 1,250 h.p., supplied with steam by 2 Scotch boilers, and completely fitted with electric light, cargo winches, steam windlass, etc., for ocean service. The keel for the second vessel has been laid, and a third one will be laid shortly.

New Westminster Construction & Engineering Co., New Westminster, B.C.—The fourth wooden steamship under the Imperial Munitions Board's order, was launched Sept. 26, and named War Ewen. This completes the order with this company. The s.s. War Edensaw, launched

June 14, was expected to be sent on her trial trip during the last week of October.

Pacific Construction Co., Coquitlam, B. C.—The wooden steamship War Tyee, which was launched Apr. 13, was hauled out on the slip at Yarrows, Ltd., yards, in the early part of October, for cleaning and painting preparatory to undergoing her trials. The s.s. War Sumas, launched July 12, was expected to be fully equipped and ready for her trials by the end of October.

Polson Iron Works, Ltd., Toronto.—The s.s. War Hydra, sister vessel of the s.s. War Taurus, which was launched Sept. 19, was launched Oct. 15, the christening ceremony being performed by Mrs. Turnbull, wife of Harvard Turnbull of the Imperial Munitions Board. The War Hydra is the second of 6 steel steamships under order for the British Government through the Imperial Munitions Board. She is expected to be ready for her cargo about the end of November.

Port Arthur Shipbuilding Co., Port Arthur, Ont.—The last of the 6 steel cargo steamships under construction for the British Government, was launched Oct. 5, and named War Horus, by Mrs. James Conmee, Port Arthur. She is a steel screw, single deck, general freight caryring steamship, with straight stem and semi elliptic stern, with poop, bridge and forecastle, and is built on the transverse system with inner bottom throughout. Her dimensions are: length over all 261 ft., length between perpendiculars 251 ft., breadth moulded 43½ ft., depth moulded 23 ft.; tonnage, 2,240 gross, 3,400 deadweight. Cargo will be handled by 4 steel derrick posts fitted with 8 booms, each boom being served by a 7 x 12 in. reversible double drum steam winch. The propelling machinery consists of a triple expansion surface condensing engine with cylinders 20½, 34⅞ and 55 in. diar. by 40 in. stroke, and supplied with steam by 2 Scotch boilers each 15 ft. diar. by 11 ft. long at 190 lb. working pressure and developing about 1,500 i.h.p.

Quinlan & Robertson, Ltd., Quebec, Que.—The wooden steamship War Mohawk, launched May 11, completed her trial trips Oct. 9, in the St. Lawrence, between Quebec and Goose Island. The outfitting of the steamships War Seneca, War Gaspe and War Matane, is being pushed, so that it is expected all will be able to clear to sea before the close of the St. Lawrence navigation for the winter.

Southern Salvage Co., Liverpool, N.S. —The wooden steamship which this company had on order from the Imperial Munitions Board for the British Government, was launched Sept. 21, and named War Halifax.

Toronto Shipbuilding Co., Toronto.—The second of the 2 wooden hulls, under order by the Imperial Munitions Board for the British Government, was launched Oct. 26, and christened War Toronto, by Mrs. C. A. Boone, wife of Major Boone, one of the company's directors, who has just returned from the front on leave.

Wallace Shipyards, Ltd., North Vancouver, B.C.—The steel cargo steamship War Storm was launched at this yard, Sept. 28, the christening being performed by Mrs. A. Wallace, wife of the Manager. She has a deadweight capacity of 4,600 tons, and is a sister vessel of the steamships War Dog and War Power, launched from the same yards May 18, 1917, and Mar. 23, 1918, respectively. It is announced that on completion, she will be handed to Raeburn & Verel, for operation on behalf of the British Government.

Steel Cargo Building for Dominion Government.

Orders for Steamships.—We have been officially advised that the following orders had been placed up to Oct. 24:—

	No.	d.w. tons each.	Total d.w. tons.
Canadian Vickers Ltd..	2	4,300	8,600
Canadian Vickers Ltd..	6	8,100	48,600
Collingwood Shipbuilding Co.	4	3,750	15,000
Davie Shipbuilding & Repairing Co.	2	5,100	10,200
Halifax Shipyards Ltd.	2	8,100	16,200
Port Arthur Shipbuilding Co.	2	3,400	6,800
Tidewater Shipbuilders,			
Wallace Shipyards Ltd.	1	4,300	4,300
Ltd.	4	5,100	20,400
Victoria Machinery Depot, Ltd.	2	8,100	16,200
	25	....	146,300

This list shows a total of 25 vessels with an aggregate deadweight capacity of 146,300 tons. The list of orders, of which Canadian Railway and Marine World had been advised, as given in the October issue, showed 24 steamships with an aggregate deadweight capacity of 118,600 tons. Since then, orders have been placed for 1 vessel 4,300 tons and 5 of 8,100 tons each, with Canadian Vickers, Ltd., and 2 of 8,100 tons each with the Victoria Machinery Depot. The latest official list of orders placed does not, however, contain the orders mentioned in our October list, as having been placed with the British-American Shipbuilding Co., Welland, Ont., 2 vessels 4,300 tons each, and Wallace Shipyards, Ltd., 1 additional of 4,300 tons, and 4 (advised as under provisional agreement) of 5,100 tons each.

Steamship Building Prices for British Columbia.—An Ottawa press dispatch of Sept. 24 stated that a deputation of British Columbia shipbuilders had waited on the Minister of Marine asking higher prices for building steel cargo steamships, on the ground that they could not compete with Seattle and other places, as higher rates are paid there, and another Ottawa press dispatch of Sept. 25 credited the Minister of Marine with stating that higher prices were not being paid at Seattle and that the United States Government was getting vessels built cheaper than the Dominion Government. We have since been officially advised that the representatives of British Columbia shipbuilders who waited on the minister were Mr. Coughlan, of J. Coughlan & Sons, and W. E. Hodges, of Wallace Shipyards, Ltd., and that they contended that higher prices should be paid to builders in British Columbia than to builders in eastern yards. We are also advised that the minister stated, in an interview, that higher prices than he was offering British Columbia builders were not being paid for the construction of similar vessels at U.S. Pacific Coast yards.

Midland Shipbuilding Co., Midland, Ont. At the launching of the s.s. War Fiend for the British Government, by the Midland Shipbuilding Co. at Midland, Ont., Oct. 24, James Playfair stated that the company expects to receive orders from the Dominion Government for 2 steel cargo steamships under the Minister of Marine's shipbuilding programme. The size to be built is under consideration, but the company would of course prefer to build the 3,300 to 3,400 type, which it is most accustomed to.

Canadian Vickers, Ltd., Montreal.—With the completion of contracts for the British Government, placed through the Imperial Munitions Board, by the launching of the s.s. War Joy, Oct. 29, attention is being concentrated entirely on the building of steel cargo steamships for the Dominion Government, of which this company will build 8, some of them probably being completed this year.

Nova Scotia Steel & Coal Co., New Glasgow, N.S.—A press report states that the Minister of Marine announced at Halifax recently that 2 steel steamships are to be built at this company's yard at Trenton, N.S., for the Dominion Government, to be about 2,800 tons each. It is also stated that Jas. Meikle, who has been acting as an inspector in the clearing up of the area affected by the recent Halifax disaster, has returned to the company's service, in charge of steel vessel building.

Victoria Machinery Depot Co., Ltd., Victoria, B.C.—The Victoria Times, in referring to the return there on Sept. 27 of J. C. McIntosh, M.P. for Nanaimo, says he stated that after a conference he had in Ottawa, on Sept. 16, with the Prime Minister and the Minister of Marine, the following written statement was given by the Minister of Marine:—

"In view of the attitude assumed by the Victoria Machinery Depot Co., the Minister is prepared to give an undertaking that, in the event of its establishing a 2-berth yard, he will, when it is ready, place contracts with ti from time to time to keep the yard fully occupied for two or three years, at such current prices as may be fair and reasonable."

Mr. McIntosh had a conference subsequently with the Minister and Deputy Minister of Marine, as a result of which the Deputy Minister telegraphed the Victoria Machinery Depot Co. on Sept. 18 as follows:—

"After interview with Mr. McIntosh, we make your firm the offer of two ships of 8,100 tons as per plans and specifications. Department will use its best endeavors to secure steel at the earliest possible date. Confirming Mr. McIntosh's wire, see no reason why, finances permitting, your yards should not be kept going to the full for two or three years, and longer, as the government's policy is permanent. If this offer meets with your approval, please wire acceptance, when articles of agreement will be prepared and forwarded to you for execution."

Mr. McIntosh added that the offer was accepted by the Victoria Machinery Depot Co., that work will be started as soon as the agreement is signed, and that 10 steamships will be built at an expense of $15,390,000.

It will be remembered that some controversy took place some time ago regarding placing of orders with this company by the Dominion Government, when the company took exception to the terms which it stated had been offered to it by the government for building three vessels. It was, however, denied at Ottawa that the government had offered the company any contract, and it was stated that a representative of the company had been informed, after looking over the government's plans, that the company might submit an offer, but that it has not done so. The complaint as to price was that the company had been offered the same price per ton for building 5,100 ton vessels as other builders received for building 8,800 ton vessels, viz., $200, which it considered unfair.

The Victoria Machinery Depot Co.'s officers are: C. J. V. Spratt, President; A. J. Ormerod, Secretary; and W. J. Brinkman, Manager. The company has a marine railway, with the following dimensions: cradle, 286 ft. long, beam 48 ft.; depth of water, forward end, 18 ft.; depth of water, end of ways, 20½ ft.; capacity up to 3,000 tons. The company

does considerable local repair work, particularly on C.P.R. steamships, and during the past two years has done a good deal of work for the Imperial Munitions Board.

Welland Canal Lock Gate Accident.

The Montreal Transportation Co.'s s.s. Oatland, while upbound light, Oct. 16, struck the head gates of lock 8 on the Welland Canal, carrying them both out. The banks at the head of lock 7 were only slightly washed, as the reach above lock 8 is a comparatively short one, and the one below a very long one. The vessel was not damaged. Two spare gates were placed in position, and navigation resumed within 12 hours. Two vessels only were delayed, and that for a short time. The estimated cost of repairs is $5,000.

The cause of the accident, as given, is mistaken signal between the bridge and the engine room, the master signalling to reverse, and the engine being put ahead. It is a singular thing that the same vessel, in charge of the same master, did precisely the same thing at lock 8, Apr. 30, 1916. The vessel was then named W. J. Averell, and owned by the Canada Shipping Co., having been owned previously by the Rutland Transit Co., Ogdensburg, N.Y. The last mentioned accident was due to the steel hawser getting caught in the vessel's condensor.

Basil Magor Appointed District Manager, U.S. Emergency Fleet Corporation.

Basil Magor, formerly Vice President and Managing Director, National Steel Car Co., who left Hamilton, Ont., and returned to the United States, some months ago, has been appointed by the Vice President and General Manager of the United States Shipping Board Emergency Fleet Corporation, as District Manager for the North Atlantic District, which includes all shipyard plants in the territory formerly known as districts 1 and 2. He will be the resident district representative of the Vice President and General Manager, and will have supervisory jurisdiction over all phases of ship production and inspection in the district. He will have charge of the development of such organization as may be necessary for the supervision of the shipbuilding operation at the shipyard plants within his jurisdiction holding contracts with the Emergency Fleet Corporation, the appointment of such assistance for steel, wood and concrete ship construction work as may be necessary, the appointment of an assistant district manager and the authorization of emergency expenditure.

Local representatives of the various home office organizations detailed for work within, or for the plants falling within the jurisdiction of the North Atlantic District, will carry on their respective duties under the District Manager's general supervision and control. These will include specifically the local representatives of the following home office organizations: Plant protection section, passenger transportation and housing division, industrial relations division, national service section, planning and statistic section, shipyard plant division, steel and wood ship construction divisions.

It is the purpose of the Emergency Fleet Corporation's management to require all employes, detailed permanently or temporarily from the home office organizations, to report to the District Manager of the district in which their work is to be carried on, for the purpose of providing a centralized local administration and establishing an effective local supervision of their activities. The local representatives of the various sections and divisions of the home office will be held responsible, by the executive heads of their respective organizations, for the performance of their work in conformity to the established policies and standards of the Emergency Fleet Corporation. They will be held responsible by the District Manager for the performance of their work at such time, in such place, and in such manner as will contribute most effectively to the carrying out of the Emergency Fleet Corporation's shipbuilding programme.

Representatives of the Supply Division, or the sections thereof, having offices within the North Atlantic District, will continue to perform their duties as heretofore and report directly to the Manager of the Supply Division. The managers of the Steel Ship Construction Division and the Wood Ship Construction Division will continue to carry out in all respects their duties as heretofore, under the Vice President's and General Manager's control.

The Expropriation of the Halifax Dry Dock.

In view of certain letters which have appeared in the daily press regarding the Halifax dry dock, a Chronicle reporter interviewed some Halifax persons who were advised of the facts, and the following statement was made: "During the recent visit of the Minister of Marine to Halifax, he met the President and council of the Board of Trade, and with reference to the dry dock and the shipbuilding enterprise he said that in company with the Minister he had visited Halifax after the explosion. It was a matter of anxiety to the Dominion Government that the dry dock had been so badly damaged.

"In consultation with S. M. Brookfield, the latter said that with so many of his employes killed and the large cost of repairing the dock, that the dry dock company might be unable to accomplish these repairs quickly. Mr. Brookfield then said the government should buy the dock, and offered it for $1,250,000. At that time Messrs. Ballantyne and Carvell decided that the government was not in a position to take over the dock, but agreed to advance the dry dock company the money necessary to make the repairs. Repairs were undertaken, but as they did not proceed expeditiously, the government sent representatives from Ottawa to Halifax to expedite repairs, as the dock was very essential for war work.

"Later the Minister of Marine said that he had been able to secure the co-operation of the Halifax Shipyards, Limited, to build steel steamships in Halifax. This company is putting between $4,000,000 and $5,000,000 in the project, and it was decided that it was in the best interests of the city that the shipyard should be placed next the dry dock. Negotiations were opened with the dry dock company for the purchase of the dock by the Halifax shipbuilders, but Mr. Brookfield was not willing to name a price. Having in view the fact that he was willing to sell the dock to the government in Dec., 1917, for $1,250,000, and it being in the interests of the country and of the city that a shipyard should be established, the Government expropriated the dock, and its value will be determined by the Exchequer Court.

"Not wishing to operate the dock as a government property, it has been leased to the Halifax Shipyards, Limited, which in turn purchased from Mr. Brookfield, at a price fixed by himself, the marine slip at Dartmouth, and certain equipment at the dry dock. The Minister of Marine added that beyond giving the Halifax Shipyards, Limited, a contract for 4 steel steamships, the Dominion had not contributed any subsidy or bonus whatever, nor did the City of Halifax, nor the Province of Nova Scotia. The order for ships was placed on the same basis that orders for some 20 others had been given to other shipbuilding companies in Canada, and which are now under construction, and some 30 more which are to be built next year."

Nova Scotia Steamships, Limited.

This company was organized recently to operate a steamship service between Halifax, N.S., Newfoundland, Boston and New York, and has leased the old Plant Line terminal on the south side of Commercial wharf, Boston, Mass. Announcement has been made previously, that the company is utilizing the offices and wharves formerly occupied by the Canada Atlantic & Plant Steamship Co., at Halifax. F. H. Chipman, formerly Manager, Canada Atlantic & Plant Steamship Co., is Resident Manager, Boston, Mass.; the Federal Line is agent at New York; H. L. Chipman, at one time Manager, C.A. & P.S. Co., is Manager at Halifax, N.S., and Shea & Co. are agents at St. John's, Nfld. We are officially advised that the steamships Cascapedia and Lady of Gaspe are being operated between St. John's, Nfld., and New York, calling at Halifax and Boston. The call at Boston is not, at present, being made every trip, but only as conditions warrant. Full cargoes are being taken each trip, freight only being handled.

The s.s. Cascapedia was originally built as a sailing vessel, at Dundee, Scotland, in 1895. She was owned by Canada Steamship Lines, Ltd., and is screw driven by engine of 260 n.h.p. Her dimensions are: length 245.2 ft., breadth 35.2 ft., depth 22.5 ft.; tonnage, 1,849 gross, 1,185 register. She has accommodation for about 100 passengers. The Lady of Gaspe was built at Glasgow, Scotland, in 1877, and named Restigouche, and later, Rathlin. She was formerly owned by the Gaspe Steamship Co., Quebec, Que., and is screw driven by engine of 180 n.h.p. Her dimensions are: length 229.7 ft., breadth 31 ft., depth 16.1 ft.; tonnage, 1,237 gross, 774 register, and has no accommodation for passengers.

The Henriette Ship Co., Ltd., the incorporation of which was announced in our last issue, with office at Vancouver, B.C., has acquired the s.s. Henriette from the Coastwise Steamship & Barge Co., and has had her converted into a four masted schooner, for operation in the Australian trade. The Henriette was originally a French schooner and was wrecked at the mouth of the Columbia River several years ago. About eight years ago she was acquired by the Grand Trunk Pacific Coast Steamship Co., equipped with propelling machinery, and operated in the coast trade between Vancouver and Prince Rupert. She was purchased later by the Coastwise Steamship & Barge Co., and operated in the ore trade between Anyox and Puget Sound ports.

The Minister of Marine's Visit to the Maritime Provinces.

The Minister of Marine, Hon. C. C. Ballantyne, accompanied by the Deputy Minister, Alex. Johnston, left Montreal, Sept. 29, on a trip of inspection of ports in the Maritime Provinces, and returned to Montreal, Oct. 6. Two days were spent in Sydney, N.S., where the harbor was inspected, and a similar period was spent in Halifax, N.S., where they were entertained to luncheon by the Board of Trade, when the Minister spoke of the Government's shipbuilding programme as it affected Halifax and district. St. John, N.B., was visited on Oct. 5, and the harbor and development work in Courtenay Bay were inspected.

In addressing the Canadian Club at St. John, N.B., Oct. 5, the Minister said: "I became a convert long ago to the necessity of nationalizing Canada's important seaports. At present the harbors under the control of the Marine Department being developed and operated as national ports are Montreal and Quebec and Vancouver. Representation has been made to me by your federal members, the city council, and others, that the government should take over the port of St. John as one of the country's most important national ports. I am heartily in sympathy with this, and it will be a pleasure for me, before the next session of Parliament, favorably to recommend to the government that the port of St. John be included amongst Canada's national seaports, and placed under a permanent harbor commission appointed by the government. My six years as one of the harbor commissioners for the port of Montreal during the big construction period, and the experience I gained there, convince me that the best way in the interests of the country to develop and operate successfully the port of St. John is to have it taken over by the government, under the jurisdiction of the Minister of Marine, and developed and operated by a small commission the same as at the port of Montreal.

"I had the pleasure of looking over your port facilities this morning, which I have not seen for the last six years, and while they are very good, much has yet to be done to make the harbor a modern one. If the government decides to nationalize the port of St. John and place it under my direction as the Minister of Marine, I hope you will then place before me the names of three good representative business men who will be willing to devote a portion of their time and energy to their duties as harbor commissioners. I would also strongly recommend, which recommendation I would be prepared to carry out, that a capable engineer, who understands harbor development thoroughly, should make a complete survey of your harbor as it now exists, and prepare plans for 10 or 15 years ahead looking to the future development, and that these plans should be very carefully prepared and well thought out in order that whatever work may be done in any one year, it would be part of a large, well-conceived scheme.

"St. John and Halifax are Canada's two winter ports, and the volume of business to be done in the future will very greatly exceed that done in the past, and I hope also that the all-the-year-round business of these two ports will continue to grow in volume, and the government must see to it that accommodation is provided well in advance to cope with it.

"The government has granted the dry dock subsidy for the construction of a large graving dock at Courtenay Bay, and this is part of the modern port equipment. Rapid loading and unloading of vessels and the time in which a vessel can be turned around is very important. Therefore, when plans are being prepared for a more modern equipment for the port of St. John, it will be necessary to see to it that the port has good railway facilities and all modern appliances for the rapid unloading and discharging of cargoes.

"I have had a royal commission investigate your pilotage system, and a report has been rendered by them which I hope to give consideration to immediately on my return to Ottawa. For the success of the port of St. John, or any other of Canada's big seaports, it is very essential that the pilotage system should be on a most efficient basis. It is my intention, if the pilotage system of the whole of Canada comes under the Marine Department, to see to it that the general superintendent of pilots at each one of the important seaports shall be an experienced man, and it will be necessary for him to have had seagoing experience, and to hold a master mariner's certificate. I understand that it is the general expression of opinion that the government should take over the pilotage system of St. John, and after I have read the report of the royal commission this will probably be done. I want to assure you, however, that the pilots will be well looked after under the care of the government, and that none of their interests will suffer in any degree, the government's only object being in making such change as will make for greater efficiency in this important branch.

"You are aware that I announced in Parliament on April 4, last, that the government, after careful consideration, had decided to go in for steel shipbuilding on a permanent basis. Prior to this the Imperial Munitions Board was building steel ships in some of the yards for England, and it was thought a wise policy by the government for Canada to occupy these yards to the full in building steel ships for the Dominion Government. In order to make steel shipbuilding in Canada secure a contract was entered into with the Dominion Steel Corporation at Sydney, N.S., for 250.000 tons of ships plates covering a period of 5 years. This mill is under erection at a cost of $5,000,000 and I am pleased to inform you that I expect it to be completed and rolling ships plates by July next.

"You will be interested to know that the annual output of Canada's yards for steel ships at present amounts to 250,000 tons. The government has under construction at the moment 22 steel ships, approximating in cost $25,000,000, and the number of ships that will be under construction next year will be considerably larger than what is being constructed at the present time, and approximating in cost $35,000,000. The size of the ships being constructed by the government is 10.500 tons, 8,100 tons, 4,350 tons and 3,750 tons, d.w., the smaller size vessels being constructed in the shipyards on the Great Lakes, their size being limited by the width and depth of the canals. These ships on completion will be owned and operated by the Canadian Government. I am determined that the government's ships shall be managed entirely free from politics and on a strictly business basis.

"It is also necessary for the government to have ships to operate on the Pacific and Atlantic Oceans and on the Great Lakes in conjunction with the great transcontinental railway which the government now operates, the Canadian Northern Ry. and the Intercolonial. There will be ready for sea this autumn 2 ships, and possibly 4, of 8,100 tons and 4,350 tons. At least two of these ships will be ready to go to sea by early December, and it will be the first time in the history of Canada that her own merchant marine will have ploughed the seas.

"The names of the first three ships will be Canadian Pioneer, Canadian Voyageur and Canadian Warrior; the first two will be built by Canadian Vickers Ltd., and the third by Collingwood Shipbuilding Co. The prefix Canadian will be followed throughout for the names of all the government ships."

A St. John paper also credits the Minister with stating there that he understood the construction of a steel shipbuilding plant at St. John was contemplated and that the government would give whatever company started, contracts on the same basis as Halifax and other yards.

Loss of C.P.R. Princess Sophia.

The C.P.R. s.s. Princess Sophia, which sailed from Skagway, Alaska, Oct. 23, with a heavy passenger list, for Vancouver, ran on the Vanderbilt Reef, in the Lynn Canal, about half way between Skagway and Juneau, some time on Oct. 24. It was considered that being fast on the rocks, and comparatively sheltered, there was little, if any, danger for the passengers and crew, until assistance could be sent. Several smaller vessels, such as lighthouse tenders, etc., answered the calls, and the C.P.R. immediately dispatched a vessel from Vancouver to take over the passengers. On the morning of Oct. 25 the U.S. tender Cedar approached within 400 yards of the Princess Sophia, but could not obtain anchor hold, and was driven back, the storm having increased considerably. Later, the Cedar received a wireless message from the Princess Sophia that she was sinking, and when daylight broke on Oct. 25, nothing was to be seen of the vessel but the foremast, she apparently having been driven across the reef into deep water, where she sank, with all passengers and crew. The number of lives lost reported at the time of writing, is 346; of these, 285 were passengers, and 61 crew.

The White Pass & Yukon Ry. Co. issued a list of 84 of its employes who were on board, among them being Capt. C. J. Bloomquist, master; J. R. Young, chief engineer; A. McLeod, second engineer; S. S. Chenery, purser, s.s. Dawson; M. W. Schellingtaw, B. Wilkinson, Victoria, B.C.; R. C. Haws, P. Vint, Vancouver, B.C., and Capt. J. F. Douglas, New Westminster, B.C.

The s.s. Princess Sophia was built at Paisley, Scotland, in 1911, and was screw driven by engine of 182 n.h.p. Her dimensions were: length 245.2 ft., breadth 44.1 ft., depth 24 ft.; tonnage, 2,320 gross, 1,466 register.

The British American Steamship Co., Ltd., has been incorporated under the Dominion Companies Act, with $3,000,000 capital and office at Toronto, to own and operate steam and other vessels, and to carry on a general navigation an[illegible]

Atlantic and Pacific Ocean Marine.

Canadian Pacific Ocean Services' steamships Empress of Japan and Monteagle, are reported to have been requisitioned for Government purposes. It is stated that either the Empress of Asia or the Empress of Russia, will be released shortly for the company's service.

Maritime Provinces and Newfoundland.

The name of the s.s. Meteghan I, owned in Meteghan, N.S., and registered at Yarmouth, N.S., has been changed to Robert Austin.

The Newfoundland Steam Screw Tug Co., Ltd., is being wound up voluntarily, with R. G. Rendell and W. G. Strong, St. John's, Nfld., as liquidators.

The Newfoundland customs cruiser Fiona, which has been in service since 1884, was sold Oct. 1, by public auction, to James Baird, Ltd., for $13,500.

The Dominion Public Works Department has awarded the contract for the repair of its s.s. Tyrian, to T. Hogan & Co., Halifax, N.S., for $19,890.

Owing to the development of a leak in the bottom of lock 4 on the Soulanges Canal, Oct. 18, traffic was tied up for several days, and there was considerable congestion of vessels.

The contract for the dredging at the Dominion Government wharf at Fourchu, N.S., has been awarded by the Public Works Department to the Atlantic Dredging Co., at 60c a cubic yard, the total being about $5,400.

The steam tug Hugh D., owned heretofore by Hugh Cann & Sons, Yarmouth, N.S., is reported sold to New York interests. She was built at Shelburne, N.S., in 1908, and is equipped with engine of 24 n.h.p., driving a screw. Her dimensions are: length 80 ft., breadth 18 ft., depth 7.6 ft.; tonnage, 71 gross, 32 register.

The schooner Lavonia, which ran aground at Cape Tormentine, N.B., several months ago, and which was purchased by Mr. McManus, Moncton, N.B., was refloated and taken to Pictou, N.S., recently, where she had a new bottom put in, and had a general overhaul. She is not reported to have been sold for about $34,000. R. Hall is now managing owner.

The s.s. Stella Maris, which was at anchor in Halifax harbor when the disastrous explosion occurred there in December, 1917, and had a large piece of metal driven through her hull, is being repaired by the Halifax Shipyards, Ltd., and is expected to be ready for service again, early in November. She is of about 500 tons, was originally a gun boat, and was sold by the Halifax Graving Dock Co. to Burns & Kelleher.

Province of Quebec Marine.

The s.s. Winnifredian, which ran on the rocks at St. Marys Islands, near Quebec, in September, and sank, was refloated at the end of the month, by the Quebec Salvage & Wrecking Co., under the supervision of Capt. Kjerland. Compressed air only was used, the amount required being 133,000 cu. ft., fed at the rate of 2,000 cu. ft. a minute.

Bids were received Oct. 31, for the owners, by Davidson, Wainwright, Alexander & Elder, solicitors, Montreal, for the purchase of the barge E. H. Lemay, with her cargo of about 221 tons of anthracite coal, and the barge Lawrence C. Giff, with equipment and any effects thereon, as they lie submerged in the St. Lawrence River near Wayagamac Island below Three Rivers, Que.

The Montreal Harbor Commissioners held their annual inspection of the port, Oct. 8, when a number of newspaper men were invited to see the many improvements which have been carried out, or are in progress there. The President, W. G. Ross, thanked the newspaper men for the silence which had been maintained during the war, on the extensions and improvements which had been made, to enable the commissioners to deal with extraordinary shipping which had passed through the port.

Ontario and the Great Lakes.

The s.s. David W. Mills, which sank at Port Stanley, some time ago, has been raised and taken to Buffalo for examination and repairs.

The Landbo Transportation Co.'s s.s. Landbo was reported ashore on Goose Island shoal, near Mackinac Island, Lake Huron, Oct. 26.

The Great Lakes Transportation Co., Midland, is reported to have been awarded the contract for icebreaking in Thunder Bay and local harbors, for five years.

The s.s. Senator Derbyshire, owned in Montreal, en route from Ogdensburg, N. Y., to Chicoutimi, Que., with coal, Oct. 13, struck a shoal in the river, and was subsequently beached near Brockville.

Vessel traffic through the St. Marys River was practically suspended from 11 p.m., Oct. 16, to 11 a.m., Oct. 17, on account of a dense fog. Vessels anchored where they happened to be, until the fog lifted.

The Montreal Transportation Co.'s tug Mary sprang a leak, when running light between Montreal and Kingston, Oct. 18, and sank near Pine Tree Point, below Iroquois. The crew were saved, and as the vessel lies in a good position, it is not expected that there will be any trouble in salving her.

The Montreal Transportation Co.'s barge Hamilton sprang a leak while passing through the Welland Canal, Oct. 5, and returned to Port Colborne, where she unloaded her cargo of grain, 4,000 bush. of which are said to have been damaged. She left later for Buffalo, where she was drydocked for repairs.

Canada Steamship Lines' s.s. J. H. G. Hagarty struck an obstruction in Hay Lake, while heading for the West Neebish Passage, Lake Superior, Oct. 18, and sustained some damage, which caused her to list badly. She was taken to the Algoma dock and her cargo was lightered, as it was not considered safe for her to proceed on her downbound trip.

The Reid Towing & Wrecking Co., Port Huron, Mich., is reported to have ordered a steel steam tug to be built by the Foundation Co., at its Port Huron yard, which was taken over recently from the Reid Towing & Wrecking Co. The vessel, it is reported, will cost about $300,000, and will be delivered during November, fully equipped and ready for service.

Surveys have been undertaken of the U.S. s.s. Charles S. Price, one of the vessels wrecked in Lake Huron during the great storm in Nov., 1913. Two days were spent in examination early in October, but the s.s. Brojate, which was chartered for the job, had to return to Detroit, Mich., owing to bad weather. The vessel lies in 60 ft. of water, about 13 miles out from Sarnia.

The U.S. Lake Survey reports the levels of the Great Lakes in feet above mean sea level for September as follows: Superior, 602.54; Michigan and Huron, 581.50; St. Clair, 575.77; Erie, 572.60; Ontario, 246.20. Compared with the average September levels for the last 10 years, Superior was 0.11 ft. below; Michigan and Huron, 0.86 ft. above; Erie 0.08 above, and Ontario 0.03 ft. below.

A press report stated recently that the ice breaking steamship James Whalen was about to be sold to the Great Lakes Transportation Co., Midland, for icebreaking purposes in Thunder Bay. It was also stated that the Dominion Government had awarded a contract to that company for the usual annual icebreaking in the Bay. We were officially advised, Oct. 19, that no contract had been entered into with that company for icebreaking on Thunder Bay, but that, with other companies, it had tendered, and being the lowest tenderer, recommendation for its acceptance had been made.

The appeal of Auditore & Co., Buffalo, N.Y., against the claim of Canadian Vickers, Ltd., for $52,983.34, for work done on the s.s. Susquehanna, was dismissed in the Admiralty Court at Montreal Oct. 18. The appellants offered to pay $32,000, and disputed items—profits $16,544.89, and overhead charges $13,157.20. The Susquehanna was one of the U.S. lake steamships which was divided in two at Buffalo for passage through the Welland Canal, and re-united and converted into a seagoing steamship by Canadian Vickers, Ltd. She was torpedoed subsequently and sunk by the enemy.

The Detroit & Windsor Ferry Co., on Oct. 20, gave notice of an increase in the rates of fare, pending a decision of the Government as to the granting of a new franchise. The Mayor has protested against the increase, and has asked the Government to disallow same. The increase provides for 8 tickets for 25c, instead of 10, and commuters' tickets of 100 trips for $2.25 instead of for $1.50. The Windsor Ferry Co., Ltd., was incorporated recently, to operate a ferry service between Windsor and Detroit, and O. E. Fleming, K.C., is reported to have stated that this company had made arrangements for a landing place in Windsor, at the foot of Brock St. C. Millar, Toronto, is said to be interested in the new company.

The Marconi Wireless Telegraph Co.'s application for an injunction to restrain the Canadian Car & Foundry Co. from installing certain wireless telegraph apparatus on mine sweepers under construction at its Fort William, Ont., plant, for the French Government, was refused by Mr. Justice Bruneau at Montreal, Oct. 25. In delivering judgment, he is quoted as saying:—"The French Government wants these ships. It is a question of urgency. Any interference by this court in the manner asked would delay construction, equipment and delivery of the ships. The respondents may be made to account for what they have done—but later on, after the war. To grant this injunction would be, in my opinion, but nothing less than a crime against the French Government, without doing any practical good to the petitioner."

Basset Steamship Co., Toronto, is reported to have sold the s.s. Mariska to

Canada Steamship Lines, Ltd., for $310.-000. She was bought from the Pittsburg Steamship Co. in 1913, and was built at Cleveland, Ohio, in 1890. She is of steel with double bottom for water ballast, steel boiler house, 3 watertight and 2 non watertight compartments, cargo hatches 24 ft. centers, and of the following dimensions: length between perpendiculars 291 ft., breadth moulded 40 ft., depth moulded 22 ft.; tonnage, 2,502 gross, 1,875 net. She is equipped with triple expansion engines with cylinders 24½, 38 and 61 in. diar. by 42 in. stroke, 1,200 i.h.p. at 80 r.p.m., and supplied with steam by 2 Scotch boilers 14 ft. long by 12½ ft. diar. at 160 lb. We have been officially advised that Canada Steamship Lines, Ltd., has not purchased the vessel, and have also been advised that she has been sold to J. F. M. Stewart, Toronto, and that she has been cut in two at Collingwood, for passage through the Welland Canal, to a St. Lawrence port, when she will be rejoined and placed in Atlantic service.

The Montreal Transportation Co. is reported to have sold the s.s. Paipoonge and the barge Thunder Bay to Cuban interests. The s.s. Paipoonge was built at Cleveland, Ohio, in 1888 and named Corona. She is of steel with double bottom for water ballast, 3 watertight and 2 non watertight bulkheads, steel boiler house, electric light, hatches 24 ft. centers, and has dimensions: length 292 ft., breadth 40 ft., depth 24½ ft.; tonnage, 2,517 gross, 1,634 net. She is equipped with triple expansion engine with cylinders 20, 38 and 61 in. diar. by 42 in. stroke, supplied with steam by 2 Scotch boilers 14 ft. diar. by 11 ft. long, at 180 lb. working pressure, developing 1,200 i.h.p. The barge Thunder Bay was built at Cleveland, Ohio, in 1895 and named Malta. Her dimensions are: length 302 ft., breadth 40.2 ft., depth 25 ft.; tonnage, 1,951 net. Both vessels will have to be cut in two to pass through the Welland Canal, and it is stated that this has been taken in hand, and that the vessels will be taken to the coast before the close of lake navigation.

British Columbia and Pacific Coast.

The C.P.R. is reported to have chartered the steam tug Dola for its car barge service to Vancouver Island.

Navigation on the Yukon River closed Oct. 12, with the sailing of the last vessel of the season from Dawson for White Horse.

The C.P.R. s.s. Princess Adelaide, bound from Vancouver to Victoria, ran ashore at Georgina Point, Main Island, Oct. 13. The passengers were transferred to the company's s.s. Princess Alice safely.

The Dominion Public Works Department has filed plans at Vancouver, B.C., for the erection of freight sheds at the government dock there. The cost of the sheds is stated as $120,000.

The Dominion Minister of Public Works is reported to have stated at Vancouver, Oct. 23, that $250,000 will be placed in the estimates next year for dredging from the mouth of the North Arm of the Fraser River, to New Westminster.

The Pacific Steamship Co.'s s.s. Ravalli, which was considerably damaged by fire at Lowe Inlet, June 14, and salvaged by the Prince Rupert Dredging & Salvage Co., was towed into Vancouver, towards the end of September by the s.s. Georgia. A contract for the repair of the vessel will be awarded shortly.

The Union Steamship Co.'s s.s. Camosun ran on the rocks at Brockton Point, Burrard Inlet, Oct. 1 and tore a hole in her bow above the water line. As she was running at slow speed on account of the fog, the damage was comparatively light. The 150 passengers were taken off by Vancouver firemen using their ladders, but the crew remained on board. The vessel released herself on the rising of the tide and her schedule is not being interfered with, at least, for a time.

It is announced that the dual position of Wreck Commissioner for British Columbia, and Examiner of Masters and Mates, Victoria, B.C., held for some years by Capt. J. D. Macpherson, has been abolished, and that he has been appointed Wreck Commissioner for British Columbia. Pending a permanent appointment, it is stated that Capt. Chas. Eddie, Vancouver, B.C., will conduct all examinations in connection with applications for certificates of competency as masters and mates.

The s.s. Beaver, which was acquired from the C.P.R. by the British Columbia Government, recently, is being overhauled and transformed into a ferry boat by the Star Shipyards and Westminster Iron Works, New Westminster. When completed she will be placed in service between Ladner and Woodwards. She was built at Victoria, B.C., in 1898, and is a steel vessel, paddle wheel driven by engine of 13 n.h.p. Her dimensions are: length 140 ft., breadth 28 ft., depth 5.1 ft.; tonnage, 545 gross, 344 register.

J. C. McIntosh, M.P. for Nanaimo, is reported to have stated that he has been assured by the Minister of Public Works that if a private company will undertake the construction of a dry dock at Esquimalt, the Government will assist the project under the act to aid the construction of dry docks. It is stated that a Vancouver company is anxious to build a dry dock in Vancouver, and to avail itself of the Government subsidies, but that the Minister has said that the first chance is to be given to Esquimalt.

J. P. Davies, Montreal, owner of the steam tug Salvor, is claiming $20,000 for salvage services rendered to the Japanese s.s. Canada Maru, when she ran on the rocks at Cape Flattery recently. The tug was owned by the British Columbia Salvage Co., and it is claimed that she was sold and the money paid over, on the day the Canada Maru casualty occurred, and prior to the call for assistance. The Salvor has been transformed into a freight carrying vessel for service between the B.C. coast and Australia.

The repairs necessitated to the Japanese s.s. Canada Maru, which was wrecked at Cape Flattery recently, and which are being done by Yarrows, Ltd., Esquimalt, cover extensive damage forward. About 35 plates have been removed, renewal of the fore foot, straightening of a considerable number of frames, repairing tank tops, etc. The bottom damages are so great that it is impossible for the keel to rest on the blocks, and the vessel has had to be shored up with iron clad timbers wedged under the overlapping plates on either side. The keel forward will be replaced in sections.

A Mercantile Marine Ensign has, according to an Ottawa press dispatch, been adopted for the steel cargo vessels being built for the Dominion Government, and it is said that it will consist of the Union Jack, with the beaver and an anchor.

The Salvaging of Wrecked Vessels.

Salvaging has been carried on by British wrecking companies on an unusual scale during the last four years. Much more progress has been made in raising sunken tonnage in the vicinity of the British Isles than most people are aware of. More than half of the British ships sunk by submarines in the last 30 months have been raised and restored to service, according to a conservative estimate. Figures given out by a British authority place the number of ships salved by the Admiralty Salvage Department at 260 for the period from 1915 to 1917, all of which were of big tonnage. For the first five months of 1918, there were 147 vessels raised, bringing the total since 1915 to 407. These figures exclude ships raised outside British waters.

Regarding the development of salvage activities in American waters, The New York Journal of Commerce is sceptical of extensive work being undertaken. In the opinion of U.S. shipping men, new shipping is being produced at such comparatively cheap rates that it offers a serious competition with wrecking as a means of producing tonnage quickly. The field for such work on the American coast is, of course, much less fruitful for wreckers than is that on the other side of the Atlantic.

After the first few months of the war the demand for tonnage became so great, and values so tremendously expanded that numerous wrecking and raising enterprises were undertaken in all parts of the U.S. coast, Great Lakes and inland rivers; of vessels which had long been abandoned because the cost of raising them was greater than they were worth, but in wartime became practicable. Some of these jobs attracted much attention at the time, and netted the speculators handsome profits, besides showing them many a new wrinkle in operating methods.

But today available wrecks are not plentiful, within depths of water which can be worked, and inquiry among wrecking concerns shows little disposition to undertake work abroad. Europe has plenty of wrecking concerns to attend to all available materials, they say. It is true that U.S. companies have, in some favorable cases, undertaken work in foreign waters, but most of the sinkings have been in water too deep to permit operation by any methods at present employed.

The limit for a diver of the ordinary type and physical capacity is less than 100 ft., and those who can go down in depths of 150 ft. are very rare. Work of that character is necessarily expensive and limited to very short periods, entailing long drawn out operations to accomplish anything. There have been attempts made at the construction of diving suits of metal, with mechanically jointed shoulders, elbows, knees, etc., and hook "fingers," but, as one of the largest wrecking companies put it: "We are from Missouri in that respect 'till they show us that they will work right, and they haven't done it yet. When they do, we are willing to adopt them."

Something has been done along the line of using huge electro magnets for lifting ships, but professional shipwreckers are not enthusiastic about them. Heretofore it has been considered as impracticable to lift any hulk of more than 1,500 tons with ropes passed under her keel, but the increased incentive has lately resulted in almost doubling this weight, and with the use of pontoons working the load into shallow water. Wreckers admit that in America there has been less development

of novel methods than in England, principally due to the lack of material on which to work and consequently absence of incentive.

While a ship comparatively easily raised still offers large returns to the salvage contractor, the rapid development of shipbuilding—or ship manufacturing, to be more exact—is making the speculation with all its attendant risk of complete failure less alluring every day. At best, wrecking at sea—and most of the sinkings have been in exposed places—is uncertain. At the very minute when success seems assured a heavy gale or storm or a high sea may undo in an hour the preliminary work of weeks and all the expenditure is wasted. It is this which makes wrecking companies exact heavy rewards on uncertain problems and takes away the attractiveness of lifting old hulls.

The St. John Steamship Co., Ltd., has been incorporated under the New Brunswick Companies Act, with $49,000 authorized capital and office at St. John, N.B., to own and operate steam and other vessels, and to carry on the general business of steamship owners and merchants. The incorporators are, J. G. Harrison, A. L. Fowler, and T. E. G. Armstrong, all of St. John. The company is reported to have a steamship under construction at Yarmouth, N.S., for Bay of Fundy service. Formation of the company and the order for the new vessel are said to have been determined by the fact that owing to the sale of packet steamboats formerly on the Minas Basin route, and the withdrawal of the vessels from that service, communication between St. John with important Nova Scotia centers by water was interrupted and local merchants put at the disadvantage of competing with Halifax over a long rail route.

English Channel Car Ferry System.—Among the many things which the war has brought into being, and which have been matter for discussion for years, is a car ferry system between England and France. Low ferry boats, specially built for the purpose, are being used, and cars from English railways are run on board and transferred to the French railway system, and thence to their destinations. The service is under government control, and is said to have proved its value. The difficulty of transferring the cars to and from the ferries at all stages of the tide, which is said to have held up several previous schemes, has been overcome. It is expected that this, or a similar system, will be continued after the war, until the channel tunnel, which is now practically assured, is built.

Port Arthur Shipbuilding Co., Port Arthur, Ont.—The last of the steel cargo steamships under order by the Imperial Munitions Board for the British Government, was launched at this yard, Oct. 5, and christened War Horus by Mrs. James Conmee. This vessel has a deadweight capacity of 3,400 tons, and it is expected that she will be ready for sea well before the close of lake navigation.

In the agreement between the U.S. Government and the Western Union Telegraph Co., under which the company's lines are being operated by the U.S. Post Office Department during the war, the government, according to a press report, undertakes to pay all interest on outstanding bonds, all dividends and interest due on stocks and bonds of subsidiary companies, all taxes and operating charges, and in addition, $8,000,000 a year.

Mainly About Marine People.

G. F. Moore, Sydney, N.S., has been appointed shipping master for the port, vice M. McKinnon, resigned.

S. McClay, one of the Vancouver Harbor Commissioners, has been elected a director of the American Association of Port Authorities.

Sir Arthur Harris, Director General for Canada, British Ministry of Shipping, left Montreal, towards the end of October, on a trip to the Pacific coast.

James Carruthers, President, Canada Steamship Lines, Ltd., Montreal, has been elected a Canadian director of the London, Liverpool & Globe Insurance Co.

F. D. Geohegan has been appointed Eastern Passenger Agent, Northern Navigation Co., Sarnia, Ont., to assist the Manager in the Passenger Department.

Lieut. Col. F. A. Gascoigne, D.S O.,
Secretary-Treasurer, Canadian Pacific Ocean Services, Limited.

James Carruthers, President, Canada Steamship Lines, Ltd., has given the Western Hospital, Montreal, securities valued at $50,000, yielding an annual revenue of $3,000.

G. W. Crossan, heretofore Surveyor, Naval Service Department, has been appointed Assistant Works Manager, Engineering Department, Halifax Shipyards, Ltd., in charge at present of all repairs to engines, boilers and machinery.

J. H. Price, formerly General Manager, Cameron-Genoa Mills Shipbuilders, Ltd., Victoria, B.C., is now Managing Director of Kiernan & Kern, shipbuilders, Seattle, Wash., who are building wooden steamships for the U.S. Emergency Fleet Corporation.

Capt. Norman Mackay, master of the Canadian Northern Ry. car ferry Canora, which left Lauzon, Que., for the Pacific Coast, recently, was presented with a gold watch by the builders, the Davie Shipbuilding & Repairing Co., before leaving.

James Playfair, President and General Manager, Great Lakes Transportation Co., and Vice President and General Manager, Midland Shipbuilding Co., Midland, Ont., celebrated the 29th anniversary of his wedding, Oct. 25, by launching the first steel steamship to be built at Midland.

E. W. Holton, heretofore General Passenger Agent, Northern Navigation Co., Sarnia, Ont., has been appointed General Freight Agent in charge of Freight Traffic, with office at Sarnia, Ont., and the Passenger Department has been placed under the supervision of the Manager, H. H. Gildersleeve.

Capt. R. D. Foote, commodore of the Northern Navigation Co.'s fleet on the Great Lakes, has retired after over 50 years service on the lakes, 35 of which have been spent with the Northern Navigation Co., and its predecessors. He has been master of the s.s. Noronic since she was built in 1913, and prior to that was master of the s.s. Hamonic from her maiden voyage.

Lieut.-Col. F. A. Gascoigne, D.S.O., who has been appointed Secretary-Treasurer, Canadian Pacific Ocean Services, Ltd., Montreal, was born at Gosport, Hants, Eng., Apr. 2, 1866, and entered Canadian railway service May 18, 1883, since when he has been, to Aug., 1884, car checker and general clerk, C.P.R., Brockville, Ont.; Aug., 1884, to Aug., 1891, record clerk, foreign mileage clerk, and statistical clerk, Car Accountant's office, C.P.R., Montreal; Aug., 1891, to Feb., 1903, chief clerk, Car Service Department, C.P.R., Montreal; Feb., 1903, to May 31, 1909, Car Accountant, C.P.R., Montreal; May 31, 1909, to May, 1915, Superintendent, Car Service, Eastern Lines, C.P.R., Montreal. As commanding officer of the 3rd Victoria Rifles, he took an active part in recruiting in the early stages of the war, and in May, 1915, he was appointed to command and organize the 60th Battalion, which he took overseas, serving with it for two years, and receiving the Distinguished Service Order.

The Cunard Steamship Co. announces that it has made arrangements for taking over the general passenger agency of the Toyo Kissen Kaisha, the third largest steamship company in Japan, and operating steamships between Japan and Pacific coast ports, calling at Honolulu. The agency in Great Britain was held formerly by the Southern Pacific Co., but on the taking over of the company by the U.S. Railroad Administration, it was found to be impracticable to continue the arrangement. This change in agency has given rise to another rumor in connection with possible amalgamations of, or absorptions by, British steamship companies.

G. W. Crossan, heretofore surveyor, Department of Naval Service, is reported to have been appointed Marine Manager, Halifax Shipyards, Ltd., Halifax, N.S. He was for some time engaged in navigation on the Great Lakes, and since the commencement of the war has taken several vessels overseas. He served his apprenticeship in Clyde shipyards, Glasgow, Scotland, and has been chief engineer of several vessels. He was for some time resident in Toronto.

A. D. Swan, engineer of the Marine Department, arrived in Vancouver, from Ottawa, Oct. 21, to undertake an examination of the port, and report to the Minister of Marine, as to improvements required to enable the rapidly increasing traffic to be dealt with adequately.

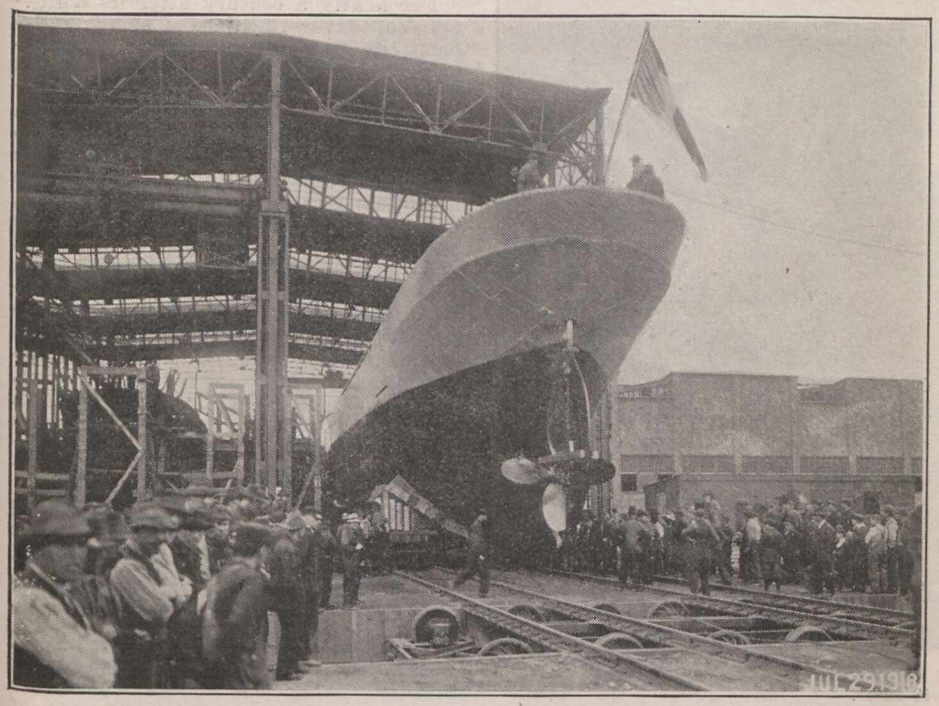
Single Screw Steel Mine Sweepers for French Government Built at Fort William.

As first announced in Canadian Railway and Marine World for March, an order to build 12 mine sweepers for the French Government was given the Canadian Car & Foundry Co. in February last, being placed by the French Military Navy Department of the French High Commission to the United States. The company decided to build them at its Fort William, Ont., plant, and estimated that an assembly plant and launching facilities could be provided there for $250,000. The vessels have the following general dimensions, etc.:—

Length, over all	143 ft.
Length, between perpendiculars	135 ft.
Breadth, moulded	22½ ft.
Depth, moulded to main deck	13¼ ft.
Depth, moulded to quarter deck	14¼ ft.
Displacement, loaded	630 tons.
Freeboard, Lloyds	15 in.

They are of the single screw, steel steam trawler type, and are built to the full requirements of Lloyd's register, class 100 A1 steam trawlers, single deck, with raised quarter and forecastle decks and steel deck house. The top of the boiler house and winch casing form the navigating bridge, on which is a steel house containing the captain's room and wheel house. On top of the deck house aft is a steel house for the wireless telegraph operator, with platforms at sides for lifeboats. Two pole masts of Oregon fir are fitted, the foremast stepped in cast housing on the main deck, and the main mast is housed by the deck house aft. Steam steering engines are installed in the upper engine rooms. Included in the deck machinery equipment are: double cylinder, 2 drum steel trawl winch, with reversing engines; double cylinder, single drum, steam hoister, with non-reversing engines, and a steam windlass.

The system adopted in building and launching these vessels was unique. The company's main car shop at Fort William is approximately 1,000 ft. from the Kaministikwia River and there is a difference in the elevation between the water level and the grade of the plant of approximately 40 ft. It was decided to build the vessels adjacent to the plant, rather than close to the water, and then to move them to the water's edge by special means. For the building of these vessels the company erected, adjacent to its main car plant, a separate building, divided into 6 building berths. This building is of steel and concrete construction and is served with overhead travelling cranes to facilitate the application of the steel.



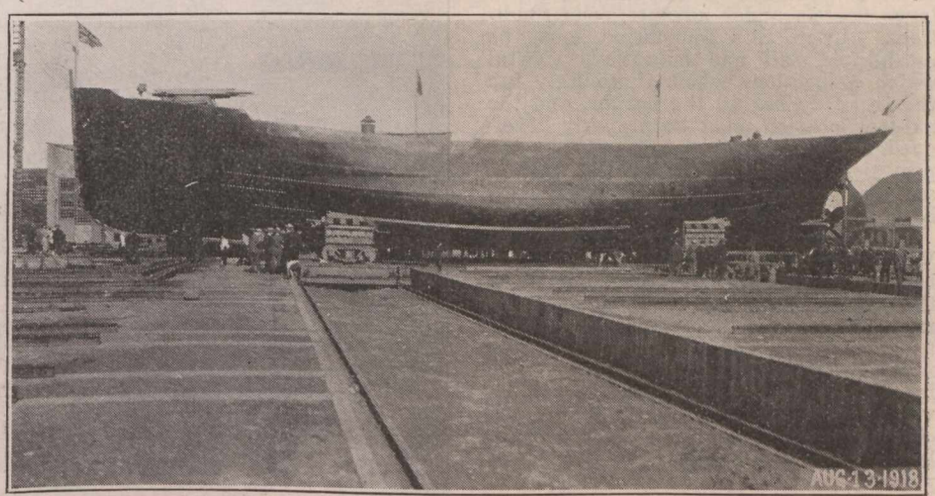
Mine Sweeper for French Government, leaving building, on cradles and trucks, for transfer table.

After a hull was completed it was supported on 2 cradles, which were carried by 4 specially constructed trucks, as shown in one of the accompanying illustrations. The hull was then pulled out of the building, by a locomotive and a cable, on to a transfer table, as shown in another of the accompanying illustrations, allowing the hull to be moved sideways in either direction to line it up with the double line of tracks, laid from the transfer table to the river. The hull was then moved farther toward the river, by a locomotive and cable, until it had crossed Montreal St., the Grand Trunk Pacific Ry., and the Fort William Municipal Ry. Immediately after the crossing of these tracks, the incline to the water commences, being about an 8% grade. At this point another locomotive was attached by a cable, and the hull from there on descended to the river by its own weight, but was held in check by the cable fastened to the bow end, and which in turn was attached to the locomotive with a short string of cars, and by means of the air brake on the locomotive the hull was allowed to descend or be stopped at will. The river bank was excavated for this grade, and also deep enough to form a slip in from the river, and the railway tracks were laid practically to the river bank, so as to allow the trucks to go right into the water. Immediately they descended into the water deep enough, the hull floated off the cradles and they were then pulled back for future use.

The first of the 12 vessels was launched July 29 and the last on Oct. 14. Their names are: Navarin, Mantoue, Saint Georges, Leoben, Palestro, Lutzen, Bautzen, Senef, Cerisoles, Sebastapol, Malakoff, Inkerman. Three of the vessels have been thoroughly tested and delivered to the French Commission, having met all requirements in reference to speed, coal consumption, etc.

The mine sweeper Mantoue, while downbound Oct. 26, collided with the car ferry Bessemer, during a severe fog on Lake Erie. Both vessels were somewhat damaged, and the Mantoue put in at Cleveland, Ohio, to await further instructions before proceeding on her voyage to the Atlantic.

The Canadian Northern Ry. Car Ferry Canora, left Quebec, Que., Oct. 1, on her long trip to British Columbia, via the Panama Canal. She is expected to arrive about the middle of November, after which she will take up her service between Port Mann, on the south side of the Fraser River, and Patricia Bay, Vancouver Island. She is in charge of Capt. Norman McKay, Owen Sound, Ont., with W. Byers as chief engineer.

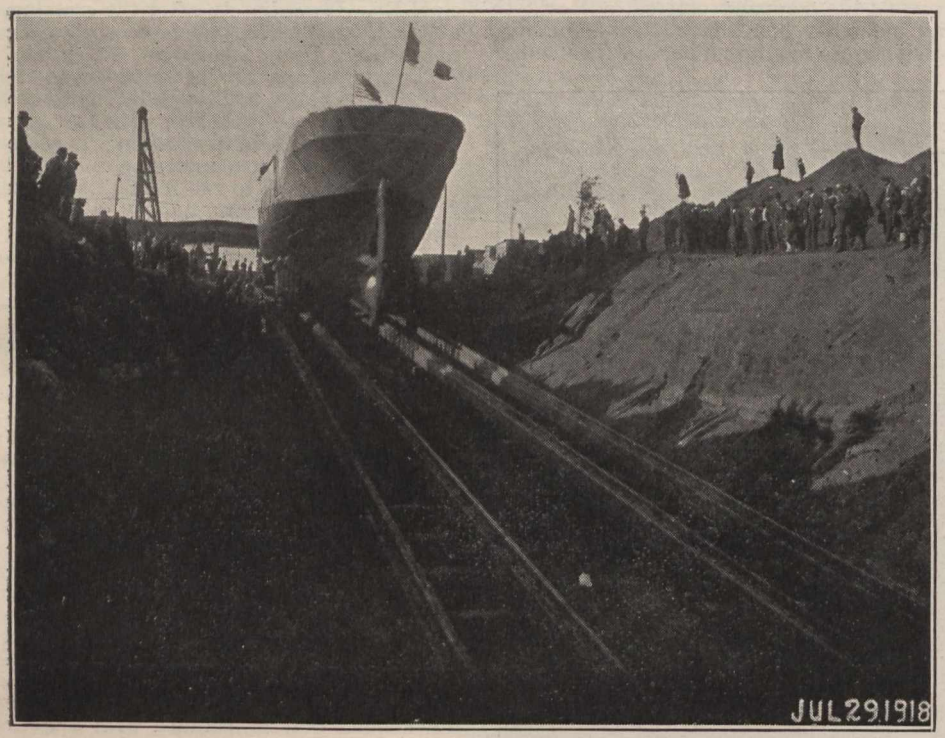


Mine Sweeper for French Government, on transfer table.

Vancouver and Prince Rupert Harbors in British Columbia.

By S. McClay, one of the Vancouver Harbor Commissioners.

In the establishing, on a successful working basis, of a port of any magnitude, certain factors must exist, natural and acquired. As a foundation, the location must have behind it a territory in which is found population, natural resources and industrial development of such a character as to provide stable sea going trade. Before it must lie a territory which may be reached by the water route economically and afford a reciprocal market. The harbor itself must be located so as to afford natural protection for large vessels under advantageous conditions. Upon this foundation must be established rail and subsidiary coastal water connections which thoroughly tap the territory behind the harbor, and the natural location must be properly developed, either publicly or privately, by the provision of equipment for the prompt and economical handling of the water borne business of the port.



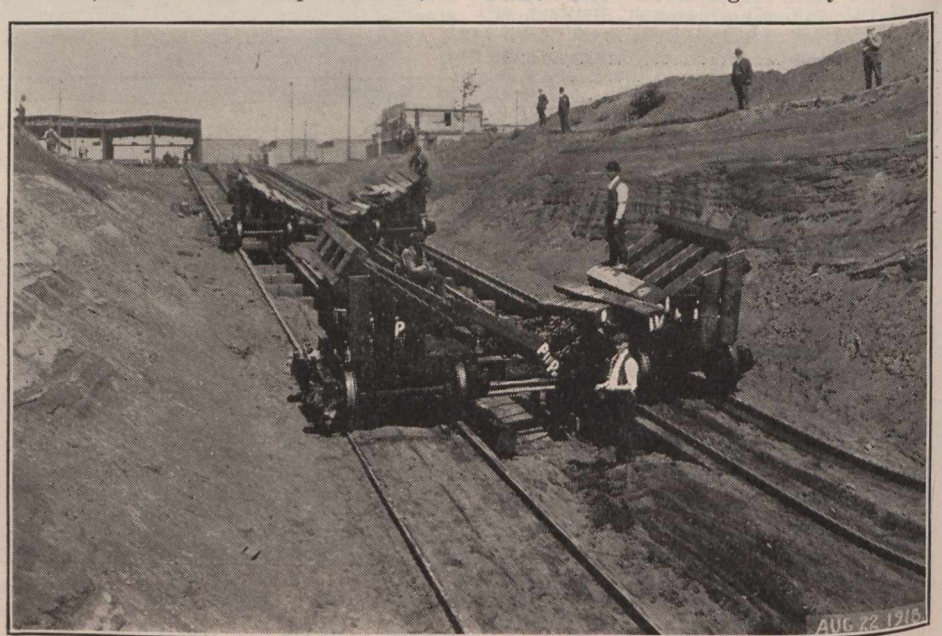
Mine Sweeper for French Government, going down incline railway toward the slip excavated in from Kaministikwia River.

All of these conditions are found at Vancouver in a remarkable degree, and because of this fact the development of the point as a port has been phenomenally rapid, its position at present being such as to constantly attract with increasing force the attention of the great world interests. Largely as a result of the development of its business as a port, the city has grown from its scattered population of a few hundred in 1885 to its present position of the fourth city of Canada, having urban and suburban population of approximately 175,000. As a port, Vancouver today more than rivals Montreal, where systematic port development work has been carried on for years, and the outlook for Vancouver becoming one of the great seaports of the world is not by any means visionary. In the opinion of many who are able to speak with authority, such a future is absolutely assured.

History.—The discovery was made by Capt. George Vancouver, R.N., commanding H.M.S. Discovery, which, accompanied by the armed tender Chatham, left Falmouth April 1, 1791, and for the following 4 years followed exploration and discovery work, in the course of which the harbor was for the first time visited by white men. The return of the vessel to home ports, noted in the Annual Register for 1795, under date of September 24, is as follows:—"The Discovery, sloop of war, Capt. Vancouver, arrived at Limerick on the 13th inst. in company with the homeward bound East India fleet, having completely effected the object of her expedition, and made some important discoveries on the northwest coast of America. She sailed from England with 150 men on board, and such was the attention of the officers to their health that only one died in the course of a very fatiguing voyage of four years. They speak in the highest terms of the inhabitants of the Sandwich Islands, from whom they experienced every possible civility and attention."

For nearly a century after its discovery Vancouver remained a small settlement, its surrounding waters being devoted to only local uses, although Burrard Inlet (its inner harbor) was surveyed by Capt. Richards, of H.M.S. Plumper, in 1859-60. In the early eighties the Canadian Pacific Ry. saw the value of the harbor as the western terminal of the first Canadian transcontinental railway, and in 1886 completed its line to the point. The city was then incorporated and the name Vancouver given to it, in honor of the man who, 94 years previously, discovered the harbor. Since the incoming of the C.P.R. the development of the city and port has been phenomenally rapid. The survey of the harbor, which was made by Capt. Richards in 1860, was revised in 1891 by a thorough survey under the direction of W. J. Stewart. of the Dominion Hydrographic Department.

The harbor of Vancouver is described in ancient Admiralty records as "the first great harbor that indents the coast of British Columbia." It is located on the easterly side of the Straits of Georgia, some distance north of the 49th parallel, and a few miles northeast of the point where the flood of the Fraser River pours into the straits. The limits of the harbor are particularly described in an act of the Dominion Parliament as follows: "The harbor shall include Burrard Inlet, with the North Arm and Port Moody, False Creek and English Bay and all other tidal waters lying east of a line drawn from the Point Atkinson lighthouse southerly to the most westerly point of Point Grey."

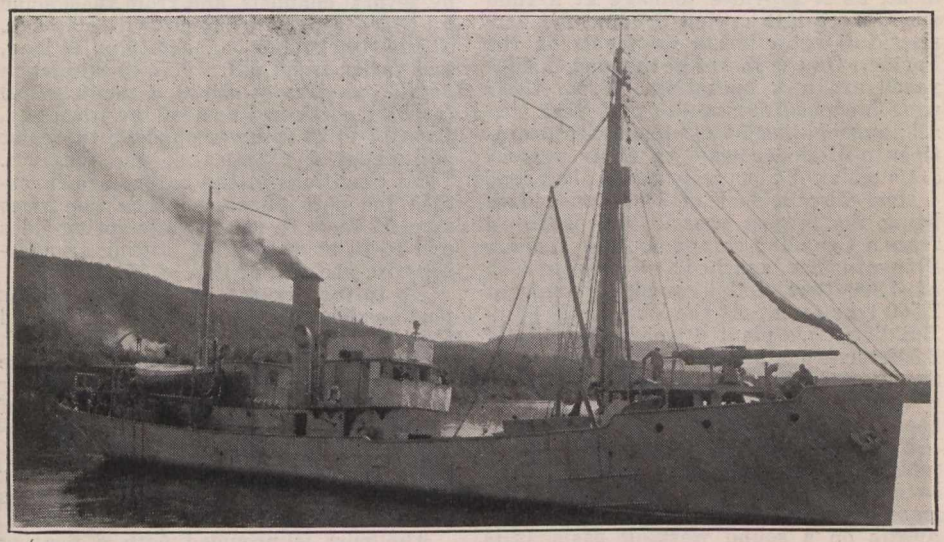


Cradles and trucks for launching mine sweeper for French Government, at Fort William.

English Bay, which may be termed the outer harbor, is an enclosed body of

water, having a uniform width of 5 miles, and extending from the Straits to Prospect Point; it forms the entrance to the central harbor, a distance of 6 miles. The depth of this portion of the harbor is from 50 to 60 fathoms at its entrance and 5 to 6 fathoms near the shores. This section is sufficient for the accommodation of extensive shipping. Up to the present, however, it has been but little used for the purpose, owing to the far more advantageous location afforded by the central harbor as hereafter described. English Bay is, however, so naturally located as to lend itself admirably to development work, which will make it an ideal location for port business, and, in the opinion of the writer, will, as the port develops, become the most important part of the harbor.

The central harbor is reached through First Narrows, where a channel 900 ft. wide (now being developed to a width of 1,400 ft.) exists, the depth being from 35 to 72 ft. at low water. The central harbor extends from First Narrows to Second Narrows, a distance of 5 miles, with a maximum width of 2½ miles, and affording a depth of from 9 to 10 fathoms. It is in this section of the harbor that the greater part of the business as a port is carried on.



Single screw mine sweeper Navarin, built at Fort William for French Government.

Burrard Inlet.—East of the central section, Burrard Inlet extends to Port Moody, a distance of about 9 miles, with a tributary inlet, the North Arm, extending for some distance to the north from Barnet. This section of the harbor may be termed the industrial section, as its shores offer adequate sites for the establishment of industries, which, on the south side, have the advantage of both rail and water transportation. Already many thriving industries are located in this section. These same remarks apply to False Creek, an arm of English Bay, extending east from Prospect Point, a distance of several miles, on the shores of which some of the principal industries of the city are now operating.

The natural location of Vancouver harbor is all that could be desired, view it from whatever standpoint one may. This fact has led both harbor experts and after dinner speakers to declare it "one of the best natural harbors in the world." It is perfectly sheltered, and the locality is free from periodical disturbances, such as cyclones, hurricanes, and even heavy winds. The greatest wind velocity ever recorded is 30 miles an hour, and the average hourly velocity for the last three years is reported as follows: 1915, 4.5; 1916, 4.6; 1917, 4.4. Even should a hurricane develop, the location of the inner harbor (which is three-fourths of the entire area) is such as to afford perfect shelter under such trying conditions.

The harbor is open all the year round, the question of ice as an impediment to its use in winter being a factor which need not be considered. The status of Vancouver as a winter port is unique in Canada, as it affords a water borne export outlet at a time when all other ports of the Dominion are either tied up or operated under great difficulties, owing to weather conditions. The prevailing temperatures for the last three years are reported as follows:—

1915—Maximum, 89.5 (August); minimum, 22.9 (December). Average, 51.36.

1916—Maximum, 82.9 (June); minimum, 6.0 (January). Average, 47.2.

1917—Maximum, 82.6 (July); minimum, 10.3 (January). Average, 48.8.

The area of the harbor is so great and its depth so ample as to allow free navigation under any conditions. The bed is chiefly a blue clay formation, which assures a good anchorage. The situation is such as makes it possible, when wharves are congested, to load or discharge cargoes from scows or lighters in the stream with perfect safety. Tidal conditions are also favorable, the greatest rise recorded in 24 hours being 16 ft., with a minimum report of 8¼ ft., and an average rise and fall of less than 12 ft. The harbor is practically free from submerged rocks, shoals and other dangers to navigation, such as are a handicap or a source of enormous expense to so many harbors.

Strategical Position.—I have previously mentioned the location of many thriving industries on the harbor foreshore, a point of manifest economic value in the operation of such plants. Vancouver harbor is well suited for this purpose, as out of its entire 98.4 miles of waterfront, there is practically none which is not suitable for either industrial or commercial purposes. The importance of the port of Vancouver should not be underestimated. I have briefly outlined its natural advantages, and will now hurriedly review the field which it serves and the possibilities which lie before it.

From the standpoint of world trade the port of Vancouver is located in a strategical position. It is today practically the only Pacific gateway for the entire Dominion of Canada for water-borne shipments. It is also within 25 miles of the International Boundary Line, its location for port purposes being one of the facts borne in mind by United States transcontinentals when establishing terminals at the point. Its situation with reference to Panama Canal traffic is advantageous, as it is the first Canadian port on the Pacific in relation to this great transoceanic shortcut.

Rich in Resources.—Back of Vancouver stands a country with an area of nearly 4,000,000 square miles, which looks to the port as its natural Pacific outlet. Wonderfully rich in natural resources (the full measure of which has not yet been even approximated), rapidly advancing in population, already established as one of the great grain growing districts of the world, making rapid strides along every line of industrial development, this territory covers a wonderful field. The port is connected with every portion of the settled districts of this great area by the Canadian Pacific, Canadian Northern, Grand Trunk Pacific and Pacific Great Eastern Railways, all of which have terminals in Vancouver. To this must be joined the business coming from the U.S. over the Great Northern, Northern Pacific and the Chicago, Milwaukee & St. Paul Railways, all of which have either established terminals or connections with the port. Such is the truly wonderful field which stands behind Vancouver as a port.

Before the city lies the Orient—a fruitful field, as yet only partially developed—the islands of the Pacific and Australia, with all of which the port carries on business. Nor is the story yet all told, for Vancouver claims as a port a far wider field than the Pacific. Previous to the war, water borne shipments were carried on regular callings at the port to the Old Country, via the Mediterranean and the Suez Canal; and the possibilities opened up by the Panama Canal will undoubtedly still further strengthen its hold and widen its field of service to points upon both shores of the Atlantic.

Advantages of the Port.—One of the principal factors in port development is the provision of both rail and water cargoes in either direction, as the running of empties or voyages in ballast are not economic operations. Vancouver offers advantages in this line which are just now being fully brought out, mention concerning which I may well make at this point. For years the problem of transporting the immense grain crop of northwest Canada to its natural destination (the old country) has been hedged with difficulties, owing to transportation on the Great Lakes being closed during the winter. As a port which is open all the year round and affording direct connection with England via the Panama Canal, the advantages of Vancouver for such shipments were pointed out. Objection was made as to the danger of the grain deteriorating when shipped in bulk on account of the long voyage and the passage through the tropics. Last year, however, a trial shipment of 100,000 bush. was sent by this route. The experiment was closely watched by the government authorities, whose report on the trip was made recently. This report shows that the cargo contained 15% abnormal moisture when it left Vancouver in Nov., 1917, but that it reached London in Feb., 1918, in first-class condition, and was accepted as such by the consignees. This shipment proves beyond all question the possibilities of Vancouver as a port for the shipment of

grain in bulk from the Canadian northwest to the old country.

Other illustrations as to the possible development of Vancouver as a port because of the Panama Canal short-cut are afforded when it is stated that water borne shipments of shingles may be made by this route from Vancouver to Boston, at 40c per thousand, and that a 40 lb. box of British Columbia apples may be shipped in cold storage by the route for 25c—less in each case than the delivery cost of the single unit within the Boston city limits.

Tonnage Statistics.—As showing the present standing of Vancouver as a port, I present the following figures as to tonnage for the fiscal years ended Mar. 31:—

1917.	Vessels.	Tonnage (gross)
Foreign, inwards	1,520	2,041,859
Foreign, outwards	1,392	1,734,629
Coastwise, inwards ...	9,493	3,356,050
Coastwise, outwards ..	9,793	3,629,551
Total		10,735,089

1918.	Vessels.	Tonnage (gross)
Foreign, inwards	1,449	1,890,873
Foreign, outwards	1,369	1,392,141
Coastwise, inwards ...	9,993	3,549,997
Coastwise, outwards ..	10,206	3,906,496
Total		10,639,507

In May, 1913, the Dominion Parliament placed Vancouver harbor under the control of a harbor commission, consisting of a president and two commissioners. Authority was given this commission to establish regulations for the government of shipping in the harbor and to exercise control on the foreshore, as well as appoint a staff to carry out these rules. This work has been done in conformity with the practice observed in the best regulated harbors of the world.

Reinforced Concrete Wharf.—In addition to the regulation and control exercised by the harbor commission, it also directly operates one of the finest public wharves on the Pacific Coast. This wharf is located on Burrard Inlet, in the heart of the central harbor. The wharf is of the reinforced concrete type of construction, a new method on the Pacific Coast being employed in the work, involving the use of cribs reinforced with concrete and a heavy mass wall of concrete. The wharf is 800 ft. long and 300 ft. wide, and so located as to give a depth of 35 ft. at low tide. On the wharf are 2 sheds, with trackage on each side, the easterly being 676 ft. 10 in. long and 78 ft. 8 in. wide, and the westerly 843 ft. long and 97 ft. 9 in. wide. This shed is provided with a depressed track. There is a steady demand for accommodation at this wharf, and during the past year the harbor commission has been compelled to turn away business from it, owing to the berths being occupied or storage accommodation being completely taken up.

Adjoining this wharf is a Dominion Government grain elevator which has a capacity of 1,250,000 bush. The receiving capacity is 20,000 bush. an hour and the loading capacity 60,000 bush. an hour, the plans providing for this loading being carried on for 4 vessels at one time. The equipment also includes a sacking plant, capable of handling from 3,000 to 5,000 bush. an hour.

Fostering Industrial Development.—The harbor commission judges that the fostering of industrial development comes within its field, and has, to that end, reclaimed 33.13 acres of land in False Creek. This was done in 1917, the reclamation being accomplished by dredging in the waterway; 971,457 cubic yards of material were used, and the reclamation work cost 14c a square foot. The harbor commission named the tract Industrial Island, and has divided it into 3 zones, offering the sites to industries on 21 years leases, with privilege of renewal for two additional terms. Zone A contains 11.24 acres, and fronts on the main channel, with 20 ft. of water at low tide, the annual rental here charged being $1,500 an acre. Zone B, 11.35 acres, with 12 ft. of water, rents for $1,000 an acre per year, and Zone C, 5.60 acres, which has only trackage facilities, rents at an annual payment of $800 an acre. The harbor commission's plan of granting to industrial plants practically permanent leases on a ground rental basis has been heartily welcomed, and over half of the property has already been leased, with many industries now in operation.

I have previously mentioned the numerous industries which have been established on the shores of the port of Vancouver. It is fitting, however, that special mention be made of the shipbuilding industry, which has developed at the point during the last year, inasmuch as it is indirectly a feature of port development, as it provides tonnage at a time when there is a crying demand for carriers for water borne shipments on the Pacific. On the shores of the port, 4 shipyards are now operating. From these were launched during the past year vessels aggregating 98,200 tons, with operations still under way on other vessels. J. Coughlan & Sons shipyard has launched 4 steel vessels, each of 8,800 tons, these being the largest vessels ever launched from a Canadian shipyard. The Wallace Shipyards has launched 3 steel ships, each of 4,800 tons, and 6 wooden vessels of 2,500 tons each. At the Wm. Lyall Shipbuilding Co.'s plant 6 wooden vessels of 2,800 tons each have been launched, while the Western Canada Shipyards has made a similar contribution to the tonnage of the Empire.

Future Needs.—While the harbor commission has already done valuable work in developing the port business of Vancouver along many lines and putting port affairs on a sound working basis, it is admitted that there is much which still remains to be done in the line of provision of equipment, etc., to adequately prepare the port for its future needs. The harbor commission recently took up with the Hon. C. C. Ballantyne, Minister of Marine, many questions of this character. The minister showed a hearty interest in the development of the port, as to the future of which he has no doubt, and promised hearty co-operation in the plans outlined. The first step of the programme agreed upon is now under way in the sending of an expert harbor engineer to the coast to look over the situation and recommend to the Ottawa authorities a systematic policy of extension as to improvements and equipment designed to cover the demands of the port for the next 15 years. It is with genuine pleasure that I record this progressive policy of the minister, as all connected with port development know that in this field it is necessary to plan several years ahead in order to properly meet demands as they arise.

Prince Rupert Harbor, the northern port on the mainland of British Columbia, is located in latitude 54′ 20″ N. and longitude 130′ 20″ W. The place came into prominence as a city and a port when the Grand Trunk Pacific Ry. made it the Pacific terminus of its transcontinental. The name was given in 1906 as a result of a suggestion contest, arranged by the G.T.P.R., in which 12,000 names were suggested, the winner of the prize being Miss Eleanor M. MacDonald, of Winnipeg. The name is suitable, as it places on the map of the Pacific Coast the name of the dashing cousin of King Charles II. and the first Governor of the Hudson's Bay Company. After the accession of King Charles II., Prince Rupert (an illustrious soldier and explorer) joined the Duke of Albermarle and others on the discovery of a supposed passage through Canada to the South Seas, and in June, 1668, dispatched two vessels to Hudson Bay for the purpose. The outcome of this expedition was the granting in May, 1670, of a Royal Charter to Prince Rupert and others under the title, "The Honorable Company of Gentlemen and Adventurers Trading to Hudson's Bay," the concern being known throughout the world as the Hudson's Bay Co. This charter gave the sole right to trade and proprietorship in an enormous area of what is now Canada, termed Rupert's Land.

Prince Rupert harbor is large and commodious, and affords a perfect shelter for large vessels. It is entered from the north by Chatham Sound, from the south by several channels, and from the Pacific by Dixon Entrance and Brown's Passage. The harbor proper is about 10 miles long, and varies from half a mile to 2 miles in width. A survey shows a depth of 20 fathoms north and east of the town site, from 17 to 23 fathoms opposite the point and about 6 fathoms at the wharves. Tidal conditions in the harbor are favorable for port purposes. The tide rises from 17 to 24 ft. at alternate spring tides and 16 ft. at neap tides, making an average rise and fall of tide of 15 ft.

Up to the present the business of this port has been chiefly coastwise, the Grand Trunk Pacific operating a fleet, with regular sailings, to the Queen Charlotte Islands, Alaska, Vancouver and other southern ports. The port is the center of a large business in fish and lumber, having played an important part in the win-the-war programme through its handling of enormous quantities of fresh fish, as well as spruce for aeroplane construction.

The port is provided with a floating drydock with a lifting capacity of 20,000 tons, particulars of which may be outlined as follows:—

	Length, feet.	Lifting capacity, tons.
Dock, over all	600	20,000
Middle section	270	10,000
Each end section	165	5,000
Middle and end section	435	15,000
Two ends	330	10,000

With this drydock is connected a thoroughly modern machine shop and equipment, including a 15-ton travelling crane. The entire plant, covering 17 acres, was constructed by the Grand Trunk Pacific Ry. at a cost of approximately $2,500,000.

Prince Rupert harbor is not yet directly controlled by a harbor commission, its development being under the direction of the Marine Department. A large number of private wharves have been constructed, and the Dominion Government maintains a lighthouse depot, with wharves and full equipment. The British Columbia Government has provided a wharf, 600 ft. long, accommodating vessels of 25 ft. draft, which is equipped with sheds, etc. The Grand Trunk Pacific is about to start work on the construction of an ocean wharf, 1,000 ft. long, and equipped with storage sheds and modern equipment, for the handling of cargoes.

The total tonnage entered and cleared at this port during the fiscal years for 1911 to 1912 was 1,656,489 tons.

The foregoing paper was read before the American Association of Port Authorities in Boston recently.

Air Syphon Blowers for Rivet Furnaces in Shipyards.

The use of high pressure air for rivet furnaces in a great majority of shipyards is not only overtaxing the capacity of the air compressor plants in many cases, but is resulting in a waste of power that does not seem to have been generally appreciated. In a yard where 25% or 30% of the total air supply, compressed to 100 lb., is used to support combustion in rivet heaters at a pressure of less than ½ oz., the loss of power is readily apparent.

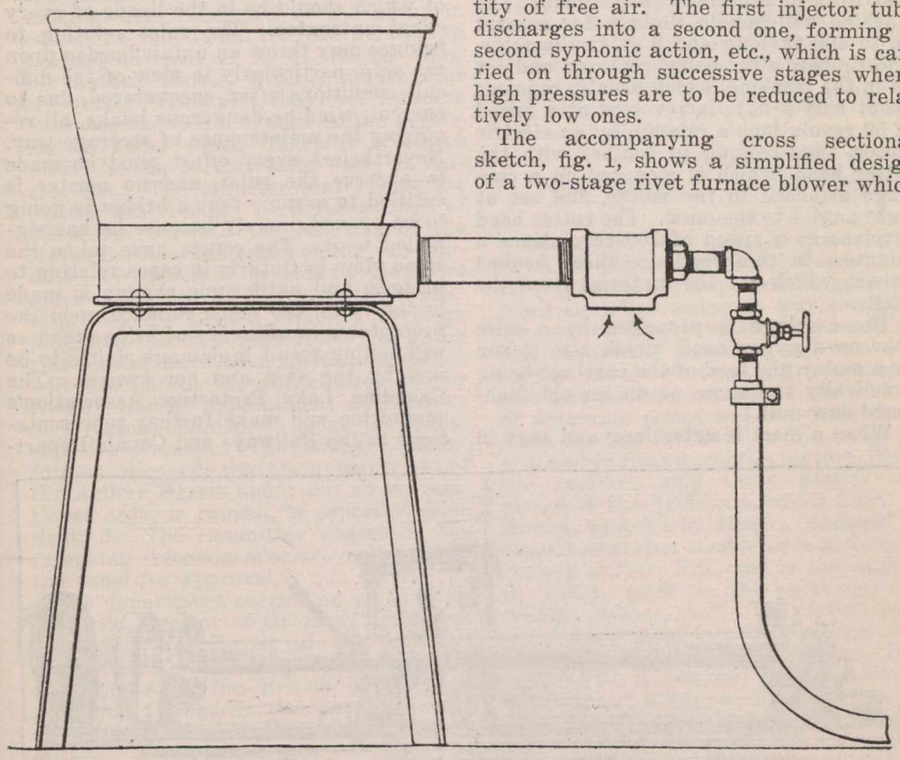


Figure 1.

A large percentage of the high pressure air now used for this purpose can be saved by the application of a jet syphon to the air connection near the rivet furnace. The high pressure air, passing through the nozzle of the syphon, draws in a liberal quantity of free air, which is mixed with the initial air, and delivered to the furnace with it. The percentage of induced free air taken in under fixed conditions, depends entirely on the more or less correct design of the syphon blower, and runs from 30% in some of the crude arrangements which have been improvised by some of the shipyards, to 75% or 80% for the best standard makes of syphons, which have been carefully tested by the Emergency Fleet Corporation's Standard Practice Branch.

The higher efficiencies are obtained by multiple nozzle arrangements, in which a very small high pressure air jet (less than ⅛ in. in diameter for an ordinary rivet heater syphon) discharges through an injector tube drawing in a small quantity of free air. The first injector tube discharges into a second one, forming a second syphonic action, etc., which is carried on through successive stages where high pressures are to be reduced to relatively low ones.

The accompanying cross sectional sketch, fig. 1, shows a simplified design of a two-stage rivet furnace blower which is suggested in the interest of economy in construction, and fig. 2 shows its application to a rivet furnace. In this design a standard 1¼ in. screwed pattern, cast iron T is used for the body of the instrument. The self-contained cast brass nozzle arrangement is screwed into one end of the T and provided with threaded connection for high pressure pipe, while the delivery tube, connecting the body to the furnace, is screwed into the other end. In order to give rugged construction and further economize in production, a short piece of standard pipe is used for the delivery tube, and the correct syphonic proportions are obtained by the insertion of a non-corrosive lining. If the nozzles are properly proportioned, blowers of this design will give thoroughly good results.

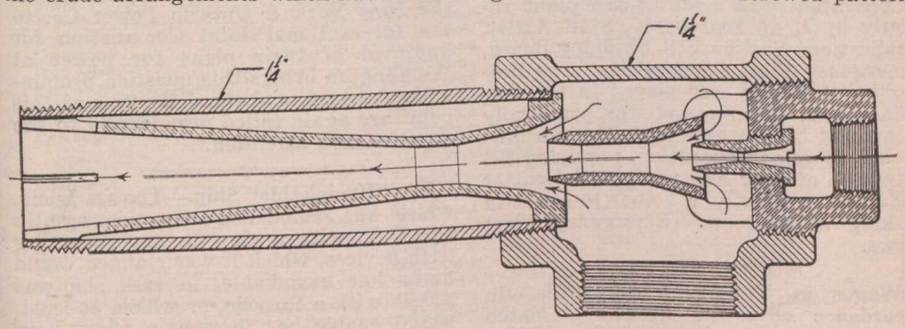


Figure 2.

Syphon blowers of the very highest efficiency can be obtained from regular manufacturers. It is quite likely that patterns and tools will be developed by some of these manufacturers for the production of the simplified instrument illustrated herein, provided there should be sufficient demand for them, and in this case the tubes would no doubt be carefully developed for highest efficiency.

The average air used by a rivet furnace runs from 20 to 40 cu. ft. a minute. A properly designed syphon blower will easily reduce the high pressure supply to 25% of the total, utilizing 75% of free air in the furnace. Figuring the average furnace air supply at 20 cu. ft. a minute, the saving effected would be 1500 cu. ft. of high pressure air a minute, or approximately 250 h.p. for each 100 rivet furnaces in operation.

A few ship yards have made some progress in the application of the syphon blower principle to rivet heaters, and some manufacturers are furnishing heaters with syphon attachments, but so far as these have been observed and tested, they have not been designed for high efficiency, and as the matter stands it seems that even the few yards that have taken steps in this direction have not taken full advantage of the opportunity. The cost of these blowers in any case is so insignificant, in comparison with the saving effected, that it is a great waste to use anything short of a thoroughly efficient instrument. It is suggested therefore that blowers be tested and that nothing be accepted or used which will not utilize 75% of induced air.

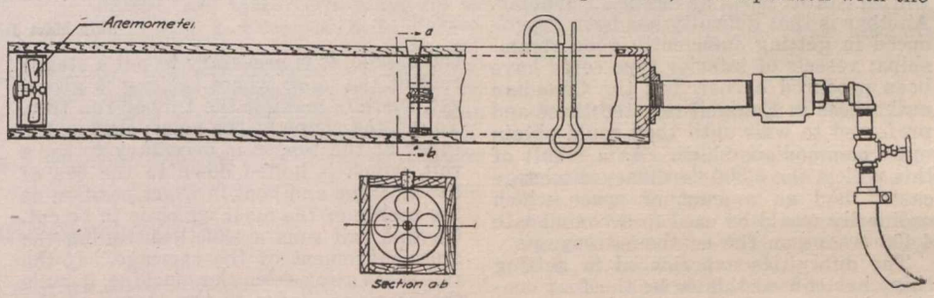


Figure 3.

A very simple testing method is illustrated by the accompanying sketch, fig. 3. In this arrangement the blower is attached to an opening in the end of a rectangular wood box approximately 3 ft. long by 4½ x 4½ in. inside cross sectional measurements. A partition is located near the inlet and is fitted with a wooden disc loosely attached with wood screw at center. Four 1½ in. equidistant holes are bored through disc and partition, as shown in the sketch, for the diffusion and passage of the air, and a hole with stopper is provided through the top of the box, immediately over the disc, so that it can be rotated to gauge the size of the openings through the partition, for the purpose of imposing a resistance or back pressure on the blower, equivalent to the

resistance of the fuel bed in a rivet heater. A bent glass tube partially filled with water is attached to the side of the box, and connected with the first compartment to show the extent of this resistance, which should be adjusted to a ½ in. water head.

An anemometer is placed in the outer end of the box, to register the flow of air which will be calculated in cubic feet by dividing the anemometer reading by 8. In testing, open the air valve on the blower until the anemometer reading reaches 280, with the resistance adjusted at ½ in. of water. This would represent 35 cu. ft. of air a minute. Next, close the free or induced air inlet of the blower, without changing the adjustment of the air supply valve, and this will give the net direct or high pressure air reading, which, compared with the previous total, will give the efficiency of the device.—From Standard Machine Bulletin, issued by Division of Steel Ship Construction, United States Shipping Board, Emergency Fleet Corporation.

Transportation of Returned Soldiers to Canada.

Several steamships have arrived at a Canadian Atlantic port recently, conveying between 4,000 and 5,000 returned soldiers. Nearly 1,000 were "hospital walking cases," for whom berths had been specially erected in the ships under the supervision of the medical authorities; about 3,300 were "ordinary discharge cases." There were 300 or 400 soldiers' wives and children and 150 officers also returning.

The sending of so large a number at one time is due to a combination of circumstances. One is that, under the conditions caused by the pooling of shipping, increased use of late has been made of United States ports as against Canadian. Another is that difficulty has been experienced in getting sufficiently good steamships; vessels of inferior type could have been procured earlier, but the Canadian authorities in England rejected these and preferred to wait until they could obtain more commodious ships. As a result of this policy, the 3,300 "ordinary discharge cases" had an amount of space which ordinarily would be used to accommodate 4,400 troops on the eastbound voyage.

The difficulties experienced in getting ships has caused this to be the first considerable evacuation from England for a number of weeks. The effect was congestion at Buxton, the depot in England.

Another difficulty was caused by the cancellation of hospital ships, which was rendered necessary by the recent murderous attacks on such vessels by German submarines. This had two effects; it made it necessary to send "hospital walking cases" in ordinary steamships instead of in the specially equipped hospital vessels, special berths being erected so as to improve the accommodation as far as possible. It also increased the congestion in the hospitals in England, and this crowding has been further aggravated by the heavy casualties caused by the recent severe fighting.

The Consolidated Whaling Corporation's combined fleets in Pacific waters are reported to have taken 978 whales from the commencement of this year's whaling season. It is stated that the catch this year is the best since 1911, which was a record year.

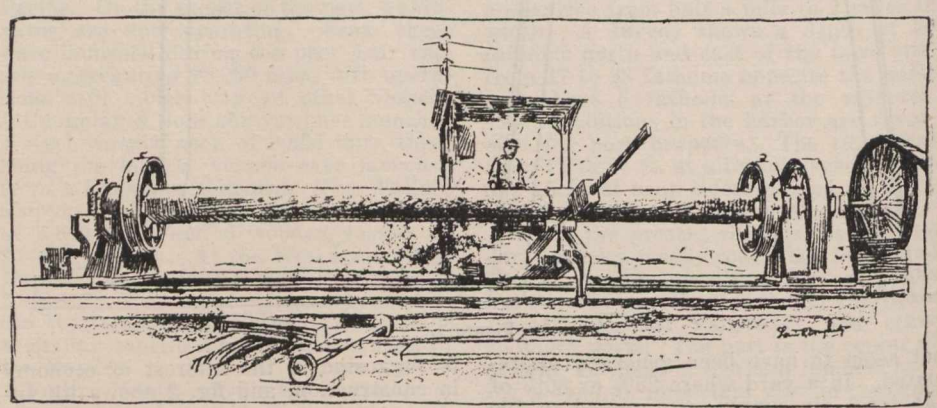
Ship Mast Turning Lathe.

The Traylor Shipbuilding Corporation, Cornwells Heights, Pa., has in operation in its yard a mast turning lathe that is one of the new developments in shipbuilding. Formerly the making of masts was a long and laborious operation fit for the best work of especially skilled men. The machine will handle timbers for a mast up to 100 ft. long and 3 ft. in diameter. The timber, after being centered and set up in the machine, which usually requires about half a day, is revolved at a speed of 50 revolutions a minute, by an electric motor, thus coming in contact with the cutter head, which is mounted on a carriage attached to the motor, and set at right angles to the mast. The cutter head revolves at a speed of 700 revolutions a minute. In this head are three hooked knives, which cut the material from the mast.

The carriage is propelled by a wire rope on a gypsy head, which also is run by a motor, the feed of the carriage being practically the same as on an old fashioned saw mill.

When a mast is extra long and sags in the middle, it is necessary to put a steady rest at the point where the sag is greatest, thereby making the timber run true. To get the shape of the mast; that is, the taper at the top, it is necessary to set a rail, which is bolted down to the bed of the machine and bent in exact position as the profile of the mast which is to be cut. On this rail runs a shoe, controlling the cross movement of the carriage. If the rail is set away from the machine, it pulls the carriage closer to the center of the mast. If it is set nearer it moves the carriage farther away.

The accompanying sketch of the lathe in operation was made at the plant recently by L. R. Dougherty, Staff Artist, Publications Section, U.S. Shipping Board, Emergency Fleet Corporation. The timber beirg turned was placed in the machine about 10 a.m., and was practically completed by the evening. The machine is very simple in operation, requiring the attention of only one man at the cutter head and another as a helper to assist in making adjustments.—Emergency Fleet News.



Ship Mast Turning Lathe.

Wages in Vancouver Shipyards.—In accordance with the agreement dated June 1, respecting wages to be paid to workers in shipyards in British Columbia shipyards, an increase of 2c an hour, effective from Sept. 1, is reported to have been granted to all labor classifications. The agreement provides for such increases as are justified by the increased cost of living, during the war.

Observance of Canal Navigation Rules.

The Canadian Lake Protective Association has issued the following bulletin:—"The particular attention of masters is again called to the rules governing the navigation of the Dominion canals, a copy of which should be in the hands of every canal navigator. The rules relating to bridges may throw an unfair burden upon the ship, particularly in view of the difficult conditions often encountered, due to current, wind or dangerous banks, all requiring the maintenance of steerage way. Nevertheless every effort must be made to observe the rules, and no master is entitled to assume that a bridge is going to be opened, merely because he has signalled to it. The courts have taken the same view in Ontario in cases relating to bridges, and until some change is made in the rules, too much reliance upon the promptness or efficiency of bridge tenders will simply result in damage claims to be met by the ship and her owners. The Canadian Lake Protective Association's committee will make further representations to the Railways and Canals Department, renewing the request for the operation of an effective signal from each bridge in answer to signals from vessels, but until the situation is improved in this way the existing rules must be strictly observed in every way possible.

"A casualty reported with reference to the Morrisburg canal upper entrance calls attention to pending proposals for improvement of conditions there. The committee is aware of the special difficulties at this point and has sought to hasten the work of improvement which has been under consideration by the Railways and Canals Department. The application of the New York & Ontario Power Co. to the International Joint Commission for approval of their plans for power at Waddington brings this question prominently forward, and the difficulties at this point are again called prominently to the department's attention."

The "Unsinkable" Ship.—The s.s. Lucia, which was remodelled some time ago, in the U.S., with a view to experimenting with devices, which it was claimed would make her unsinkable, in case she was struck with a torpedo, or which, at least, would enable her to remain afloat long enough to allow of passengers and crew being removed safely, was reported to have been torpedoed and sunk, between Oct. 13 and 20, while crossing the Atlantic. She was an Austrian vessel, and was among the vessels interned in U.S. ports on the outbreak of war, and taken over subsequently by the U.S.

British Ministry of Shipping (Canada).

The following order in council was passed at Ottawa, Sept. 5:—"The committee of the Privy Council have had before them a report, dated Sept. 4, from the Minister of the Naval Service, submitting with reference to the order in council 34, dated Jan. 12, 1916, relative to the appointment of A. H. Harris (now Sir Arthur Harris, K.B.E.) as Director of Overseas Transport, that circumstances have necessitated a change in the organization under which transport of stores from Canada to European ports is carried out. The minister states that the matter has recently been the subject of discussion between the Minister of the Naval Service, chairman of the sub-committee of council authorized by the above order in council to deal with these matters, and the British Ministry of Shipping, and that new regulations governing this matter have been agreed on, which will necessitate the cancellation of Sir Arthur Harris' appointment as Director of Overseas Transport under the Canadian Government. The minister, therefore, recommends that the appointment of Sir Arthur Harris under the above mentioned order in council, be cancelled from Sept. 5. The committee concur in the foregoing recommendation, and submit the same for approval."

The department carried on up to Sept. 5 by the Director of Overseas Transport was then transferred to the Imperial Government, the organization being now known as the British Ministry of Shipping (Canada), the personnel and office locations in Montreal being as follows:

Director General, Sir Arthur Harris, K.B.E., 319 Windsor St. Station.

Deputy Director General, W. T. Marlow, 21 Board of Trade Building.

Accountant, Geo. Wood, 21 Board of Trade Building.

Ships Movements and Bunkers, Capt. Douglas Greenshields, 21 Board of Trade Building.

Technical Department, F. Sidgwick, 21 Board of Trade Building.

Ocean Transports and Timber, W. A. Wainwright, 21 Board of Trade Building.

Ocean Liner Department, G. D. Robinson, 2 St. Peter St.

Superintendent Inland Transportation, D. O. Wood, 319 Windsor St. Station, Montreal.

Assistant Superintendent Inland Transportation, J. A. Glassford, 319 Windsor St. Station.

Shipments authorized for export, account of the British Government, are consigned on straight bill of lading to British Ministry of Shipping (Canada), at the seaboard, Montreal, Quebec, St. John, N.B.; Halifax, N.S., or Portland, Me., as the case may be.

Hydrographic Survey Work.

During the past summer the activities of the Naval Service Department's Hydrographic Survey Branch have been much curtailed owing to war conditions. Two of the survey vessels are being utilized for naval purposes and two other survey vessels were not put into commission last summer, owing to the difficulty of obtaining crews and the desire to release seamen for work in the naval service and in the mercantile marine. During the summer only three parties were placed in the field; one, under Capt. Anderson, assisted by Messrs. Bachand and Beauchemin, has completed a resurvey of Sydney harbor, N.S., and is now engaged in similar work on the northwest arm, Halifax harbor, N.S. The second party, under Lieutenant-Commander P. C. Musgrave, R.N., assisted by Messrs. Davis and Willis, is engaged in a resurvey of Victoria and Esquimalt harbors, B.C. The third party, under H. D. Parizeau, is in camp on the southwest shore of Black Bay making a resurvey of that water.

In April the Hydrographer to the Admiralty offered four commissions in the R.N.V.R. to Canadian Hydrographic Survey officers, and these were taken up by R. J. Fraser, J. L. Foreman, L. G. Prittie, and H. E. Morrissey. So far as is known, all these men are engaged in making detailed surveys of various harbors used by the British and allied fleets in European waters. The British Admiralty has availed itself of the services of seven members of the Hydrographic Survey staff to assist the British Hydrographic Office and all are actively employed in field work.

Owing to the rapid expansion of the Naval Service Department and the necessity for giving more space for the naval work, the offices of the Hydrographic Survey in Ottawa have been moved from the H. J. Daly building to the Waller St. school. The space thus vacated has been utilized for the accommodation of other offices of the Naval Service Department and is providing much needed accommodation for the overcrowded branches of the service.

Welding Process for Shipbuilding.

Building of a steel ship without rivets has been effected in a shipyard on the south coast of England, and its construction may mark a new era in the shipbuilding industry. A process of electrical welding was used for joining the plates, in place of the usual riveting and caulking. By means of an electric arc, the joints were submitted to intense heat, and the plates were fused together. The process is not entirely new, as auxiliary work has been done in the past by electric welding. During the last year, developments have been made which have permitted of the extension of this method in ship construction. A saving of between 20 and 25% is claimed in both time and material, judging from experimental work done on the vessel launched recently.

The general adoption of electrical welding in shipbuilding would permit a material speeding-up of production. The electric process is particularly economical in the assembling of bulkheads, deck structures and other interior work. The United States is keeping in touch with the developments in this work in Great Britain, and arrangements are under way for the construction of several 10,000-ton standard ships by the same process. These large vessels will contain about 2½% of the number of rivets originally intended, while the British boat was absolutely rivetless.

Among the Express Companies.

A. G. Taylor has been appointed agent, Canadian Ex. Co., Napanee, Ont., vice J. A. Day, resigned.

P. A. Dunne has been appointed agent, Dominion Ex. Co., Edmonton, Alta., vice O. E. Ford, transferred.

C. E. Theriault has been appointed agent, Canadian Ex. Co., Granby, Que., vice J. L. Davian, transferred.

W. E. Norton has been appointed agent, Dominion Ex. Co., Sydney, N.S., vice C. S. Coleman, resigned.

E. O. Shannon has been appointed agent, Canadian Ex. Co., Belleville, Ont., vice G. Jacobs, enlisted for active military service.

J. H. Chadwick has been appointed agent, Canadian Northern Ex. Co., Edmonton, Alta., vice W. E. Poole, transferred.

O. E. Ford, heretofore agent, Dominion Ex. Co., Edmonton, Alta., has been appointed agent at Calgary, Alta., vice F. R. Jelfs, transferred.

R. H. Jones, route agent, Canadian Ex. Co., Toronto, is acting as route agent at Hamilton, Ont., during the absence through illness of G. W. Hickey.

W. F. Oblender has been appointed station agent, Canadian Ex. Co., Hamilton, Ont., vice D. McKenzie, who has been transferred to a messenger run.

Sault Ste. Marie Canals Traffic.

The following commerce passed through the Sault Ste. Marie canals during September, 1918.

ARTICLES.		Can. Canal.	U. S. Canal.	Total.
Eastbound.				
Lumber	m. ft. b. m.	984	39,723	40,707
Flour	Barrels	433,110	704,000	1,137,110
Wheat	Bushels	2,830,365	3,125,228	5,955,593
Grain, other than wheat	Bushels	21,785	795,466	817,251
Copper	Short tons	3,888	7,574	11,462
Iron Ore	Short tons	1,498,782	7,252,059	8,750,841
Pig Iron	Short tons	.....	.....	.....
Stone	Short tons	.....	400	400
General Merchandise	Short tons	6,033	6,668	12,701
Passengers	Number	2,470	726	3,196
Westbound.				
Coal, soft	Short tons	122,090	2,674,487	2,796,577
Coal, hard	Short tons	20,100	273,700	293,800
Iron Ore	Short tons	.....	30,210	30,210
Mfgd. Iron and Steel	Short tons	888	7,126	9,014
Salt	Short tons	2,800	10,330	13,130
Oil	Short tons	.....	30,051	30,051
Stone	Short tons	.....	22,553	22,553
General Merchandise	Short tons	26,359	23,719	50,078
Passengers	Number	2,413	832	3,245
Summary.				
Vessel passages	Number	8,437,809	7,095,033	1,342,776
Registered tonnage	Net	2,839	2,153	989
Freight—				
Eastbound	Short tons	1,638,325	7,516,335	9,154,660
Westbound	Short tons	172,237	3,073,176	3,245,413
Total Freight	Short tons	1,810,562	10,589,511	12,400,073

W. D. Thomson, who was mentioned in our last issue as having been appointed acting agent, Dominion Ex. Co., Calgary, Alta., was appointed acting route agent there.

C. E. Potts has been appointed travelling agent, Canadian Northern Ex. Co., with jurisdiction over lines between Ottawa and Port Arthur, Ont., with headquarters at Toronto.

J. Bolduc has been appointed travelling agent, Canadian Northern Ex. Co., with jurisdiction over lines in Ontario and Quebec, east of Ottawa, with headquarters at Quebec, Que.

F. H. Smith has been appointed acting Assistant Superintendent, Pacific Division, Dominion Ex. Co., Calgary, Alta., during the absence of M. W. Hastie, Assistant Superintendent, on leave.

The Canadian Northern Ex. Co. has placed its service in operation on the Canadian Northern Ry. between Pembroke and North Bay, Ont., and has opened offices at Alderdale and Brent, Ont.

Edward Allen, Superintendent, Canadian Ex. Co., Toronto, died suddenly there, Oct. 23. He was born in Ireland, and came to Toronto in early life. He had been associated with the Canadian Ex. Co. for 50 years. His health had not been good for some time, but he had attended to his duties, and was at his office as usual on the day prior to his death.

Telegraph, Telephone and Cable Matters.

John Spiers, agent and operator, Great North Western Telegraph Co., Sandwich, Ont., died there Oct. 20, aged 65.

A. Hanley, local manager, Great North Western Telegraph Co., Kingston, Ont., for the past 15 years, died there recently.

The Marconi Wireless Telegraph Co. is reported to have decided to build a wireless telegraph plant at Buckley Bay, B.C.

R. Bodell, Commercial Supervisor, Great North Western Telegraph Co., Toronto, died Oct. 21 from pleuro-pneumonia. He had been in the company's service for 13 years.

The Anglo-American Telegraph Co. has given notice that owing to staff shortages at cable stations, it has been found necessary to suspend until further notice, the trans-Atlantic deferred rate service.

The Great North Western Telegraph Co. has opened offices at Riviere Madeleine, Que., Bolger and Glencoe, Ont., and has closed its offices at Abenakis Springs Hotel, Little Metis Beach, Pointe au Pic, St. Godefroy and Valcartier Camp, Que.; Grand Beach, Man., and Alberta Beach, Alta.

The Great North Western Telegraph Co. and its employes have agreed to refer their differences to the Canadian Railway War Board of Adjustment, No. 1, which meets early in November. Several points of difference have been settled, but others, covering the time schedule, the inclusion of chief operators, branch and smaller offices and line gang foremen, and the adjustment of district linesmen's wages, are being referred to the board.

The President of the United States has brought to the attention of the heads of departments the serious situation confronting telegraph and telephone companies, growing out of the recent heavy depletion of their trained operators due to the government's calls, and has suggested that they should be careful not to take operators away from these agencies, which are now controlled by the government, without previous consultation with the superintendent of the companies.

Trade and Supply Notes.

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

The C. E. A. Carr Co., railway supplies, etc., Toronto, has appointed H. F. Powell, as a member of its selling staff. He is a son of W. B. Powell, General Manager, Montreal & Southern Counties Ry.

Brown Hoisting Machinery Co., Cleveland, Ohio, has issued catalogue D, 1919, describing and illustrating Brownhoist trolleys, rail systems, hand travelling cranes, electric hoists, monorail man-riding trolleys, crabs and winches, and portable floor cranes.

Armstrong, Whitworth of Canada, Ltd., Montreal, has issued a folder, containing a group picture of those present at the opening of its locomotive and car wheel tire and wheel plant at Longueuil, Que., on July 31, a view of its entire plant there and a number of views showing some of the most important operations in the manufacture of locomotive and car wheel tires, including battery of 6-ton Heroult electric furnaces; ladle in position receiving charge of molten steel; teeming tire ignot from ladle into ingot moulds; 2,000-ton steam intensifier forging press; forging ingot into tire bloom; 600-ton steam intensifier hydraulic Becking press; forging bloom into rough outline of tire; tire rolling mill, last operation completing tire.

Independent Pneumatic Tool Co.—John P. Hopkins, chairman board of directors, died at Chicago, Oct. 13, after a few days illness, death being attributed to a weak heart, superinduced by an attack of Spanish influenza. He was born in Buffalo, N.Y., in 1858. He moved to Chicago in 1880 and obtained a position with the Pullman Palace Car Co. as a machinist. Later he went into business for himself as a partner in Secord & Hopkins, general merchandise, at Pullman, Ill. This venture proved successful and was the foundation for the large fortune he built up. In 1905 he was one of the organizers of the Independent Pneumatic Tool Co. and he was its largest stockholder. He served the unexpired term of Carter H. Harrison, Sr., as Mayor of Chicago in 1893-94 and was several times chairman of the Democratic National Committee. Since the beginning of the war he had served as Secretary to the Illinois Council of Defense. His close attention to war work undoubtedly affected his health and hastened the end.

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, 505 Boyd Block, Winnipeg.

Canadian Railway Club—J. Powell, St. Lambert, Que. Meetings at Montreal 2nd Tuesday, each month, 8.30 p.m., except June, July and August.

Canadian Railway War Board—W. M. Neal, Montreal.

Dominion Marine Association—F. King, Counsel, Kingston, Ont.

Canadian Ticket Agents' Association—E. de la Hooke, London, Ont.

Eastern Canadian Passenger Association—G. H. Webster, 54 Beaver Hall Hill, Montreal.

Engineers' Club of Montreal—R. W. H. Smith, 9 Beaver Hall Square, Montreal.

Engineers' Club of Toronto—R. B. Wolsey, 94 King Street West, Toronto.

Engineering Institute of Canada—F. S. Keith, 176 Mansfield St., Montreal.

Express Traffic Association of Canada—C. N. Ham, Montreal.

Great Lakes and St. Lawrence River Rate Committee—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.

Quebec Transportation Club—A. F. Dion, Quebec.

Shipping Federation of Canada—Thos. Robb, Manager, 42 St. Sacrament Street, Montreal.

Toronto Transportation Club—W. A. Gray, 143 Yonge Street, Toronto.

Transportation Club of Vancouver—H. W. Schofield, 553 Church Street, Vancouver, B.C.