Canadian Railway and Marine World

August, 1917.

Train Line Maintenance.

By A. McCowan, Supervisor Car Works, Canadian Northern Railway, Winnipeg.

The report of the Interstate Commerce Commission's Division of Safety for the year ended June 30, 1916, stated that there were 908,566 freight cars inspected, of which 3.72% were found defective; and 27,220 passenger cars, of which 1.82% were found defective. The defects which were found by the inspectors were given in detail in tabular form. Those directly chargeable to the air brake numbered 18,696, which was far above those chargeable to any other part of the car, the next nearest being couplers and parts. The number of defects per thousand cars inspected was 45.06. Of this number 20.58 defects per thousand cars inspected were chargeable to visible parts of air brakes; the next nearest percentage being couplers and parts, 6.09. The remaining 18.39 was chargeable to hand brakes, ladders, steps, hand holds, height of couplers, uncoupling mechanism and running boards as follows: Uncoupling mechanism, 4.17; hand holds, 5.; height of couplers, 1.08; steps, 0.62; ladders, 0.77; running boards, 2.20; hand brakes, 4.55.

We see from this the great relative importance of better train line maintenance. I believe it is possible to cut this percentage down materially by better maintenance of the train line. What are some of the most frequent defects in the train line? I believe they are defective hose and loose and broken train pipes at the hose connection. This percentage shown on visible parts of the air brake does not bring out the actual state of defective train lines, because we, of necessity, have to watch this matter closely and replace most defective hose or broken train pipes immediately. They, therefore, could not be discovered by Interstate Commerce Commission inspectors. In attacking the problem, therefore, we should not only attempt to cut down the percentage of cars which the commission finds defective because of the air brake, but decrease the material and labor in all repairs and renewals. I have gone into the life of the air hose with the idea in mind that there is a chance of decreasing very materially the number of hose necessary for renewals, and thereby the cost of renewals. The general opinion seems to be that the average life of hose is about eight months for air hose and one season for steam hose. I am of that opinion in regard to air hose, but in Western Canada we find the average life of steam hose is a little over four months. This, however, may be looked upon as a season in certain parts of the United States, but could not be considered such in the north.

A railway periodical stated in 1912 that the average life of hose, a couple of years previously, was only eight months, and that at that time the life of hose was probably less because the quality of hose was lower, and that the railways bought poor hose because mechanical destruction killed it in a few months anyway, whether it was good or bad. It is the opinion of people familiar with the hose question that a hose should last years if not subjected to mechanical injury. Since it seems that the average life is only eight months, there is then a chance for increasing the life of hose 20 months; in other words, making it last 4½ times as long. Let us see what this means in dollars and cents.

In the United States there were in 1915 in service 2,370,532 freight cars, 55,810 passenger cars, and 98,752 company service cars—a total of 2,525,094; and 66,229 locomotives. This means that there were in use 4,741,064 hose on freight cars; 111,620 on passenger cars; 197,504 on company service cars, and 66,229 on locomotives, or a total of 5,116,417 hose. This does not include hose on front ends of locomotives or between engines and tenders. The renewals of these 5,116,417 hose, with a life of eight months, would be at the rate of 7,674,626 a year; while if the life were three years, they would be at the rate of only 1,705,472 a year. This is a saving at which we should aim in the use of materials only. There are many other things which, in the aggregate, probably represent an even larger amount of money, viz., the labor of applying and taking off, the cost chargeable to train delays caused by hose or train pipes bursting in transit, capital account tied up in material, etc. Hose which costs from 30c to 60c or more a foot, if the life of the hose can be increased from eight months to 36 months, will make a saving in renewals of 5,969,154 air hose a year, which, at 55c each for 22 in. hose, would be $3,293,000.

It is claimed that loose or broken train pipes are even more prevalent than defects in hose, and this is borne out by the table of statistics. The train line often breaks just back of the angle cock, when cars are pulled apart. Mr. Kroft stated before the Car Foremen's Association in 1908 that it was his opinion that there were 20 breaks in the train line to one in the air hose when cars were pulled apart without uncoupling hose. What causes all these defects in the train pipe? And decreases so greatly the life of the hose? An inspection of the scrapped hose pile will show very plainly that most of the defects in hose are at the nipple end. This is where the great majority of hose fails. The train pipe breaks just back of the angle cock, or at least that is where most of the breaks occur. These facts point plainly to the jerking apart of the cars, while hose are coupled, as being the main cause. When cars are pulled apart, the hose bends at the nipple end. The fact that the bend is there and that that is the place where the great majority of defects in hose develops, proves conclusively that the short life of hose is mainly chargeable to pulling the cars apart. I do not mean to say, however, that pulling the cars apart is entirely responsible for defects at the nipple end. When a hose is not coupled up and a car is switched around the yard, the hose swings constantly and all the strain comes on the nipple end. The strain on the hose when cars are pulled apart without uncoupling, with train line fully charged, is said to be 500 lb. This not only causes rupture of the hose at the nipple end, but it stretches the hose and weakens the fabric throughout the entire length. This stretching is responsible for more hose failures than bending at the angle cock. The porosity of the hose is often charged up to poor material, when, as a matter of fact, it is really caused by jerking apart. In a test of 22,000 pieces of air hose described in a railway periodical, 82% were found to be porous. and the porosity was not localized but extended all along the hose.

We are accustomed to assume that tonnage reduction in winter is necessary because of slippery rails, greater radiation of heat, and therefore less heat applied to the work of heating the boiler, poor lubrication, etc. Investigations of one road have shown that a great deal of this tonnage reduction is necessitated because of leaks in the air line—the impossibility of providing enough air to operate the brakes on long trains. This subject of leakage is a very important one, not only for its effect on the tonnage that may be hauled and amount of fuel consumed, but also because of its effect on the operation of the compressor pump and delays which are caused by air sticking. Leaks may be classified under the following heads: 1. Leaks of hose coupler proper. 2. Leaks in the hose itself. 3. Leaks where the hose connects with the coupler. 4. Leaks where the hose couples to train pipe. Leaks in the coupler proper are usually chargeable to the wear of the materials and gaskets, or to the coupling being poorly made by the brakemen or carmen. Leakage is also caused by snow, frost and ice. Further, when air hose freezes it often becomes so stiff that it will not bend at all. This causes the joint between the two hose to leak whenever there is any movement between the couplings, and also causes leaks at the joints at the angle cock where the hose is often pulled loose. In a report to the M.C.B. Association in 1915, F. W. Brazier, of the New York Central, said that "with a 100-car train, the leakage should be kept down to 2 lb. or less. Keeping the leakage down to a minimum saves fuel, air hose, the compressor and the boiler." He also said that it requires 1 lb. of coal and 7 lb. of water to compress 35 lb. of free air in the compressor. A 100-car train requires 180 cu. ft., and with a 4 lb. a minute leakage (which is not unusual) the compressor has to pump 40 cu. ft. a minute additional. This is equal to 2,880 cu. ft. an hour, which requires burning 82 lb. of coal an hour and using 574 lb. of water. A leakage of 5 or 6 lb. is not uncommon, and a conservative estimate of the coal consumed is 860 to 1,720 lb. On many trains the leakage in five minutes is equal to the air necessary to make a full service application.

Ralph Wolfe, in a paper before the Car Foremen's Association on the care and maintenance of air brakes, said: "In order to get the proper operation of the brakes there are many factors to be taken into consideration: 1. The efficiency of the pump and what it costs to pump against leakage on big trains. 2. The brake pipe leakage and if the rate of reduction is sufficient to cause undesired quick action of the triples. 3. The length of piston travel in order to get the proper brake cylinder pressure on a given brake-pipe reduction, which will have the proper retarding effects on each car. 4. The results obtained due to unequal distribution of braking power, throughout the train. While the question of leakage is the most important of all, with an 80-car train of 10 in. equipment we have a volume of 275,200 cu. in. If the conditions were such that we had a 12 lb. brake pipe leakage a minute, we would be losing 130 cu. ft. of free air a minute, which would be equivalent to the efficiency of the 8½ in. cross compound pump. If the leakage was 6 lb. a minute, we would be losing 65.5 cu. ft. of free air a minute, which would be equivalent to the efficiency of the 11 in. pump. It is estimated that the 11 in. pump consumes 200 lb. of coal an hour. This would require 4,800 lb. of coal to operate the pump 24 hours. Estimating the price of coal at $2 a ton, it would cost $9.60 to pump against a 6 lb. leakage on an 80-car train for 24 hours. If thirty trains were being handled under the same conditions for 24 hours, it would cost $288 for fuel alone. While working under the same conditions with the 8½ in. cross compound pump, the cost of fuel would be approximately $100 pumping against leakage."

Another report on leakage made up by a railway man is as follows: "Comparative cost of maintaining 70 lb. brake pressure and 100 lb. main reservoir on a 60-car freight train (engine boiler pressure 200 lb.), in one case against a brake pipe leakage of 12 lb. a minute, and in the other a brake pipe leakage of 5 lb. a minute. Twelve pounds a minute brake pipe leakage equals a loss of 18.20 cu. ft. of free air, which represents a loss of 1,092 cu. ft. an hour and 10,920 cu. ft. for 10 hours. Five pounds a minute brake pipe leakage equals a loss of 7.54 cu. ft. of free air a minute, 542 cu. ft. an hour and 4,520 cu. ft. for 10 hours. An engine fitted with an 11 in. compressor would consume about 47 tons of coal, while supplying a 12 lb. a minute brake pipe leakage continuously for 1,000 hours. The same engine and compressor supplying a 5 lb. a minute leakage continuously for 1,000 hours would consume approximately 19½ tons of coal; 47 minus 19.5 equals 27½ tons; 27½ ÷ 47 equals 0.58, or 58% savings obtained by simply reducing the brake pipe leakage from 12 lb. to 5 lb. a minute.

The difficulties encountered and time consumed in coupling and uncoupling hose in winter are considerable. Even at zero the hose becomes so hard as to lose all flexibility, and during coupling and uncoupling it is necessary to bend it, which usually cracks the rubber, making it porous. A hammer is commonly used for hitting hose couplings to make them lock. This tends to jar hose fittings out of place in the frozen bag at the nipple and coupling sleeve, causing them to leak when the train is in motion, especially when rounding curves. The hammering on hose couplings also damages them to such an extent that it is necessary to remove the hose on account of gaskets not fitting properly. The same trouble is experienced on the road on account of couplings being drawn up by frozen hose on curves, causing the brakes to creep on and making it necessary for trainmen to hammer couplings down in place. Another difficulty is that all angle cocks are not in a proper position to allow hose couplings to meet in line, consequently, the hose is twisted before they can be made to lock, and in case of their being pulled apart they very often do not unlock, breaking the hose or train pipe. The time ordinarily consumed in coupling and uncoupling hose of a 40-car freight train, under ordinary conditions at the different winter temperatures, is as follows:

		Min.		Min.
Zero . .	1 man uncoupling	45	Coupling	50
5 to 10 below	" "	50	"	55
15 to 20 "	" "	55	"	60
25 to 30 "	" "	65	"	70
35 to 40 "	" "	70	"	75

The figures in the last column allow for coupling hose only. Any extra time required for changing hose, gaskets, etc., depends entirely on conditions. This ordinarily takes 15 to 20 minutes, sometimes it takes an hour.

The amount of both yard and road detention, chargeable to train line trouble, not to say anything of car and freight delays, is worthy of consideration. An hour and a half over each locomotive division is considered a good average of road detention to each freight train handled under northern winter conditions, caused mainly through hose troubles, creeping of brakes, and extra time taken for pumping up, in releasing. Along with this comes flat and shelled wheels from creeping brakes; also there is excessive strain on draft rigging. A broken train line means cutting out of car, and not unusually 24 hours delay to same in getting repairs made, which, where freight is concerned, is serious.

The opinion has been quite prevalent that air hose defects could be remedied by more careful attention and adherence to higher specifications in the purchase of hose. This is not altogether true, because the greater number of hose is scrapped because of mechanical injury and not through defective material. J. Sheafe, formerly Engineer of Tests of the Illinois Central, gave in an article in a railway periodical the results of an exhaustive inspection and recording of performance on thousands of air brake hose. This showed that the 30c hose showed up even better than the 65c hose, proving that the railways do not take proper care of hose, and that the majority of renewals are necessitated by mechanical injury. He further stated that there were only two things which would minimize the liability of accidents and increase the life of hose, viz., preventing mechanical injury and showing the date on which the hose should be removed, in legible figures, so that it would not be left on so long that it would be weakened.

The defects which develop because of the present hose connections between cars, as well as safety considerations and convenience, led inventors at an early date to the consideration of an automatic connector. Quite a few connectors have been developed to the point of trial, but until very recently none has had an extensive installation. We are using an automatic connector on the Canadian Northern in both freight and passenger service, and have 207 cars equipped. The first installation was made June 6, 1914, so that we have had three years experience with them. The connector which we are using is the Robinson, and this has also been installed on a large number of C.P.R. passenger cars. In the northern country, where the climate is sometimes very severe, we have greater need for a connector than railways operating in the south. It requires a good deal more steam to heat our cars, and the results of leakage are magnified. Our trains are harder to move, because the lubricating oils harden, and for this reason we have to cut down unncessary stops or delays to a minimum. The makers of this connector are so confident of the life of hose which the connector makes possible that they guarantee a life of three years for air hose used with it.

I am not going to give you a description of the mechanical features of this connector, but only some of the results which have been obtained with its use. W. L. Crocker, Chief Dispatcher, Canadian Northern Ry., Fort Rouge, Winnipeg, says that all trainmen have no hesitancy in affirming that, in their belief, both road and terminal detention would be materially reduced if all cars were equipped with these connectors. On the question of leakage I will quote from one of the reports which has been given on the connector: "During the intensely cold weather of December and January, when temperatures sometimes in excess of 40 degrees below zero were recorded in certain parts of Canada, where these cars were in operation, no trouble was experienced from leakage in connection with the device, although at the same time it was found impossible to prevent very serious leakage in ordinary hose." I quote further from the same report the following: "To one familiar with yard and train service, there appears to be no room for argument about the need of such a device. The greater life of hose, the absence of broken train pipes resulting from uncoupling cars without first disconnecting the hose, the saving of time and labor in making up trains, and the reduction in the cost of pumping air, all of which might be classed as direct or apparent economies, would undoubtedly justify the cost of application alone, but the writer is even more impressed with the benefits that would be secured indirectly. Numerous leaks are found in hose and gaskets at all seasons of the year, almost entirely the result of the practice referred to above, viz., pulling hose apart, thereby injuring the fabric and inner tube. In very cold weather, however, when the hose freezes, the difficulty in preventing air leakage becomes a controlling factor in the operation of long freight trains, and they have to be reduced in length to a point where the air pressure can be maintained irrespective of the tonnage ratings or the ability of the locomotives to haul them. Even at the best, this factor is responsible for a very great amount of terminal detention and labor on the port of car men trying to stop leaks." The connector increases the life of hose because it eliminates all mechanical wear thereon. The hose is never jerked or strained. Frozen hose does not interfere with its operation and leakage and breaks are cut down to such an extent that it is possible to run longer trains. We have found on the Canadian Northern that the Robinson connector saves us a lot of money. We estimate the comparative cost about as follows: Cost of present equipment, $23.90; cost of Robinson equipment, $36.95; difference, $13.05; cost of maintenance of present equipment for three years, $45.05; cost for Robinson equipment, $37.49; thus the saving in three years is $7.56. For six years the cost of maintenance of present equipment is $90.10, while for the Robinson connector it is $47.80, including the interest on the

difference in cost between the two systems. This means a saving of $42.30 per passenger car in six years for hose alone, made possible with this connector.

I have not made any mention of signal hose, and but little mention of steam hose. If these were taken into consideration the figures of 3,293,000 would be very materially increased. The economy in hose and train pipe breakage, however, sinks into insignificance when compared with the immense amount which would be saved in eliminating train delays and reducing trainmen's wages and coal consumption. If the figures on acceleration of traffic with a connector could be compiled they would represent a saving which would stagger the closest student of railway operation.

Great Northern Railway Report.

The company's fiscal year having been changed to correspond with the calendar year, instead of running from July 1 to June 30, the Great Northern Ry.'s 28th report covers only from July 1 to Dec. 31, 1916. The directors report that there has been no change in the capital account, which remains at $250,000,000, of which there has been issued $249,476,850. The balance is held for acquiring certain stock, etc, still outstanding. The bonds outstanding are for $197,697,909.09, at June 30, 1916.

The company's investment in Canadian companies, on account of advances made to pay for property, construction, additions and betterments, has been changed during the period, as follows:

Midland Ry. of Manitoba	Credit	$4,757.50
Manitoba Great Northern Ry.		3,092.65
Brandon, Saskatchewan & Hudson's Bay Ry.		642.16
Crow's Nest Southern Ry.		1,177.65
Nelson & Fort Sheppard Ry.		1,558.92
Vancouver, Victoria & Eastern Ry. and Nav. Co.		254,949.62
Total		$256,663.50

The Bedlington & Nelson Ry. Co., in Aug., 1916, removed the track and abandoned its railway, extending from the International Boundary to Wilkes, B.C., 12.04 miles.

The President, in his report, refers to the completion of the Vancouver, Victoria & Eastern Ry & Navigation Co.'s line between Connor (formerly Sumas Landing) and Kilgard, B.C., which was placed in operation, Sept. 5, 1916, giving the company a through Canadian line between Oroville and Vancouver.

Total revenue from transportation.		$46,395,269.22
Revenue from operation other than transportation		899,149.45
Gross operating revenue		$47,294,418.67
Operating expenses		24,677,301.23
Net revenue		$22,617,117.44
Railway taxes accrued		2,949,432.32
Operating income		$19,667,685.12
Other income		1,356,137.70
Gross corporate income		$21,023,822.82
Net corporate income		$17,201,176.43
Dividends	$8,731,254.00	
Appropriations	138,613.74	
		8,869,867.74
Balance to profit and loss		$8,331,308.69

The company's Canadian investments are valued in the general balance sheet as follows:

Midland Ry. of Manitoba	$2,348,218.39
Manitoba Great Northern Ry.	2,070,970.33
Brandon, Sask., and H. B. Ry.	2,150,642.16
Crows Nest Southern Ry.	4,217,663.24
Nelson and Fort Sheppard Ry.	2,120,578.43
Red Mountain Ry.	310,619.07
Vancouver, Victoria & Eastern Ry.	22,503,878.85
New Westminster Southern Ry.	260,000.00
Total	$35,982,570.47

Birthdays of Transportation Men in August.

Many happy returns of the day to:

A. C. Barker, Superintendent of Telegraph and Time Service, Intercolonial Division, Canadian Government Railways, Moncton, N.B., born at Lacadie, Que., Aug. 5, 1878.

V. T. Bartram. ex-Purchasing Agent, Timiskaming & Northern Ontario Ry., now of Toronto, born at Ottawa, Aug. 2, 1880.

J. C. Beckwith, Division Engineer, Canadian Government Railways, Moncton, N.B., born at Fredericton, N.B., Aug. 1, 1875.

C. B. Brown, M.Can.Soc.C.E., Assistant General Manager, Eastern Lines, and Chief Engineer, Canadian Government Railways, Moncton, N.B., born at Ithaca, N.Y., Aug. 27, 1879.

J. S. Carter, District Passenger Agent, C.P.R., Nelson, B.C., born at Aurora, Ill., Aug. 14, 1864.

A. E. H. Chesley, General Accountant, Dominion Atlantic Ry., Kentville, N.S., born near Annapolis Royal, N.S., Aug. 27, 1877.

A. B. Chown, Travelling Passenger Agent, G.T.R., Pittsburg, Pa., born at Belleville, Ont., Aug. 4, 1887.

G. T. Coleman, Car Service Agent, Ontario District, C.P.R., Toronto, born at Carleton Place, Ont., Aug. 25, 1875.

C. H. N. Connell, Engineer Maintenance of Way, Quebec District, Canadian Northern Ry., Montreal, born at Woodstock, N.B., Aug. 26, 1876.

C. E. Croft, Chief of Commissary Department, Canada Steamship Lines, Ltd., Toronto, born at Cobourg, Ont., Aug. 26, 1882.

E. L. Desjardins, Assistant Superintendent, District 1, Intercolonial Division, Canadian Government Railways, Levis, Que., born at St. Jean Port Joli, Que., Aug. 1, 1859.

L. C. Fritch, ex-General Manager, Eastern Lines, Canadian Northern Ry., now General Manager, Seaboard Air Line Ry., Norfolk, Va., born at Springfield, Ill., Aug. 11, 1869.

J. V. Foy, General Passenger and Freight Agent, Canada Steamship Lines, Ltd., Toronto, born there Aug. 27, 1882.

G. W. Groom, Assistant Superintendent, Central Vermont Ry., St. Albans, Vt., born at Rossville, Ill., Aug. 26, 1872.

G. H. Ham, Head Office Department, C.P.R., Montreal, born at Trenton, Ont., Aug. 23, 1847.

W. B. Harper, Resident Engineer, Laurentian Division, Quebec District, C.P.R., Montreal, born at Baie Verte, N.B., Aug. 15, 1882.

M. B. Helston, Superintendent, Division 4, Western District, Canadian Northern Ry., Calgary, Alta., born at Michigan Ind., Aug. 24, 1869.

W. P. Hinton, Traffic Manager, Grand Trunk Pacific Ry., Grand Trunk Pacific Coast Steamship Co., and Western Traffic Manager, Canadian Government Railways, Winnipeg, born at Hintonburg, Ont., Aug. 30, 1871.

J. D. McDonald, Assistant General Passenger Agent, G.T.R., Chicago, Ill., born at Toronto, Aug. 27, 1855.

T. McHattie, ex-Master Mechanic, Eastern Lines, G.T.R., Montreal, born at Dufftown, Banffshire, Scotland, Aug. 8, 1854.

M. K. McQuarrie, Resident Engineer, Dominion Atlantic Ry., Kentville, N.S., born at Sault Ste. Marie, Ont., Aug. 17, 1884.

A. H. Mahon, District Locomotive Foreman, Grand Trunk Pacific Ry., Edson, Alta., born north of Ottawa, Ont., Aug. 27, 1874.

W. J. Meakin, Locomotive and Car Foreman, C.P.R., Wetaskiwin, Alta., born Toronto, Aug. 22, 1872.

C. Montgomery, Master Mechanic, Pere Marquette Ry., St. Thomas, Ont., born near London, Ont., Aug. 29, 1860.

W. E. Mullins, General Manager (Freight), United Fruit Co., New York, born at Stratford, Ont., Aug. 13, 1870.

W. G. Murrin, Assistant General Manager, British Columbia Electric Ry., Vancouver, B.C., born at Greenwich, Eng., Aug. 27, 1875.

F. H. Phippen, K.C., General Counsel, C.N.R., Toronto, born at Belleville, Ont., Aug. 26, 1862.

W. M. Porteous, District Freight Agent, C.P.R., St. Louis, Mo., born at Edinburgh, Scotland, Aug. 3, 1857.

W. G. Ross, President, Montreal Harbor Commissioners, born at Montreal, Aug. 6, 1873.

W. LeB. Ross, Local Treasurer, G.T. Pacific Ry., Winnipeg, born at Ottawa, Ont., Aug. 9, 1868.

F. C. Salter, European Traffic Manager, G.T.R., and Canadian Express Co., London, Eng., born at Sarnia, Ont., Aug. 31, 1863.

A. O. Seymour, General Tourist Agent, C.P.R., Montreal, born at Ogdensburg, N.Y., Aug. 14, 1887.

S. A. Simpson, Superintendent, Sleeping, Dining and Parlor Cars and News Service, C.P.R., Winnipeg, born at Toronto, Aug. 22, 1880.

J. F. Sweeting, Industrial Agent, Natural Resources Department, C.P.R., Calgary, Alta., born at Worthing, Eng., Aug. 20, 1872.

W. J. Sturges, acting Assistant Purchasing Agent, Grand Trunk Pacific Ry., Winnipeg, born at Fairfield, Vt., Aug. 28, 1877.

L. Tait, Secretary-Treasurer, London St. Ry., London, Ont., born at Hamilton, Ont., Aug. 9, 1882.

F. E. Warren, General Car Foreman, C.P.R., Winnipeg, born at Chelsea, Que., Aug. 29, 1872.

W. B. Way, Superintendent, District 2, Transcontinental Division, Canadian Government Railways, Cochrane, Ont., born at Bowmanville, Ont., Aug. 22, 1867.

H. E. Weyman, Master Mechanic, Levis County Ry., Levis, Que., born at Guildford, Eng., Aug. 27, 1883.

Regina Spur Tracks.—From time to time the Regina City Council built spur tracks to give connection to industrial and warehouse sites, charging the owners of these properties a rental. A subcommittee reported at a meeting of the Council, July 4, that the city's interest in the tracks was not being properly looked after. The committee learned that a number of rentals have not been collected for several years, arrears in some cases dating back six and seven years, and in some cases where property has exchanged hands several times, the city is at a loss to know who should be responsible for the payments. Just how much the arrears amount to and how much property is involved the committee did not learn and doubt is expressed whether the officials are in a position to say without some research the amount over due. The council instructed the subcommittee to prepare a statement of all the spur tracks.

Canadian Government Railways Capital and Operating Statistics.

The Canadian Government Railways, on Mar. 31, 1916, the last date at which figures are available, comprised a total of 4,513.92 miles, of which 4,062.92 were being operated by the Department; 32 miles were being operated under lease by the Dominion Atlantic Ry., and 419.10 miles were under construction. The different lines were as follows: Intercolonial Ry., 1,518.39 miles, on which there are 66.92 miles of second track, and 526.64 miles of sidings, spurs, etc.; there were operated as branches of the Intercolonial, the New Brunswick & Prince Edward Island Ry., 36.05 miles; the International Ry. of New Brunswick, 111.30 miles; and the St. John & Quebec Ry., 119.87 miles; making a total for the Intercolonial of 1,785.61 miles; and the National Transcontinental Ry., including the Lake Superior Branch, leased from the Grand Trunk Pacific Ry., had 2,002.91 miles. The Hudson Bay Ry., 418 miles, is under construction from Pas to Port Nelson, Man., and the Quebec Bridge, also under construction, is 1.10 miles. The capital expenditure on these lines has been as follows:

	Year ended Mar. 31, 1916.	Total Expenditure.
Intercolonial	$7,635,050.25	$115,766,560.24
New Brunswick and P.E.I.	198,511.28	224,211.28
International Ry. of N.B.	2,637.47	3,937.47
P.E.I. Ry.	1,350,472.73	10,841,372.44
Nat. Trans. Ry.	7,078,451.69	159,881,197.46
Quebec Bridge	2,746,813.70	18,295,181.51
Hudson Bay Ry.	4,889,131.77	15,749,908.43
Total	$23,901,068.89	$320,762,368.83

The principal works on the Intercolonial upon which this expenditure was made in 1915-16 included the new terminal facilities at Halifax, upon which $3,162,304 was expended; strengthening bridges, $700,000; car ferry and dock at Mulgrave, N.S., $343,850; Dartmouth to Deans Branch, $300,360; and rolling stock, $2,500,000. The principal item of expenditure on the Prince Edward Island Ry. was on account of the car ferry terminal work at Port Borden, P.E.I., and Cape Tormentine, N.B., $1,322,593.34. The work done on the Intercolonial branch lines was necessary to bring them up to that line's standard, and the expenditures on the National Transcontinental, the the Quebec Bridge and the Hudson Bay Ry. was for construction and completion.

The accounts of the several parts of the Intercolonial Ry. System are kept distinct, as the ownership of the New Brunswick & Prince Edward Island Ry. and the International Ry. of New Brunswick have not yet been transferred to the Government; and as the St. John & Quebec Ry. is operated under an agreement with the New Brunswick Government. Following are the details of operating earnings and expenditure:

Intercolanial Railway.

Passenger traffic	$4,010,879.58
Freight traffic	9,200,339.21
Mails, express, freight, etc.	857,572.62
Gross earnings	$14,068,791.41
Maintenance of way and structures.	$2,489,798.20
Maintenance of equipment	2,367,679.33
Traffic expenses	256,871.81
Transportation	6,930,096.31
Transportation, water lines	50,619.83
Miscellaneous expenses	152,058.44
General expenses	304,391.92
Total expenses	$12,551,495.84
Net earnings	$1,517,295.57

New Brunswick and P.E.I. Ry.

Passenger traffic	$10,404.56
Freight traffic	41,696.60
Mail and express	2,902.86
Total	$55,004.02
Less miscellaneous	4,589.69
Gross earnings	$50,414.34
Maintenance of way and structures.	$40,955.33
Maintenance of equipment	5,822.33
Traffic charges	418.90
Transportation expenses	28,904.26
General expenses	743.81
Total expenses	$76,844.63
Deficit	$26,430.29

International Railway of New Brunswick.

Passenger traffic	$41,067.41
Freight traffic	68,643.57
Mails and express	2,032.38
Total	$111,743.36
Less miscellaneous	7,119.89
Gross earnings	$104,623.49
Maintenance of way and structures.	$62,103.92
Maintenance of equipment	10,311.47
Traffic expenses	1,265.45
Transportation charges	40,475.45
General expenses	2,495.09
Total expenses	$116,651.38
Deficit	$12,027.89

St. John and Quebec Railway.

Passenger traffic	$27,532.08
Freight traffic	38,193.59
Express	215.27
Total	$65,940.94
Less rental	8,198.23
Gross earnings	$57,742.71
Maintenance of way and structures.	$35,508.30
Maintenance of equipment	6,885.81
Traffic expenses	3,036.85
Transportation charges	41,435.45
General expenses	3,890.72
Total expenses	$90,757.13
Deficit	$33,014.42

Prince Edward Island Railway.

Passenger traffic	$181,518.96
Freight traffic	174,454.52
Mails and express	21,937.03
Miscellaneous	13,016.31
Gross earnings	$390,926.82
Maintenance of way and structures.	$144,865.30
Maintenance of equipment	85,304.79
Traffic expenses	10,686.59
Transportation charges	286,068.70
General expenses	18,095.24
Total expenses	$545,020.62
Deficit	$154,093.80

National Transcontinental Railway.

Passenger traffic	$ 473,109.61
Freight traffic	3,776,275.90
Mails and express	38,797.63
Total	$4,288,183.14
Less miscellaneous	529,795.75
Gross earnings	$3,758,387.39
Maintenance of way and structures.	$1,132,714.83
Maintenance of equipment	576,821.07
Traffic charges	90,304.36
Transportation expenses	2,005,086.44
Miscellaneous operations	3,796.31
General expenses	91,805.74
Total expenses	$3,860,528.95
Deficit	$102,141.36

With the exception of the Intercolonial, all the lines show a deficiency. The surplus revenue on the Intercolonial was absorbed by adding $190,000 to the rail renewal account; $100,000 to the fire renewal account; $1,225,895.57 to equipment renewal account and $1,400 on special vote as "compassionate allowances." The deficiencies on operating account on the five other lines, totalling $327,708.76, are provided for out of consolidated account. There was also paid on account of these lines: $10,186.29 as interest on purchase price of $270,000 of the N.B. & P.E.I.R.; $90,000 as interest on purchase price of $2,700,000 of the International Ry. of N.B., and $300,000 on account of rental for the National Transcontinental Lake Superior Branch. The rental of the Intercolonial's Windsor Branch, payable by the Dominion Atlantic Ry., is $22,500 a year.

Following are the general statistics of the various government lines:

Summary of All Lines.

	Earnings.	Expenses.	Surplus or deficiency.
Intercolonial Railway	$14,068,791.41	$12,551,495.84	$1,517,295.57
New Brunswick & Prince Edward Island Railway	50,414.34	76,844.63	26,430.29
International Railway of New Brunswick	104,623.49	116,651.38	12,027.89
St. John & Quebec Railway	57,742.71	90,757.13	33,014.42
Prince Edward Island Railway	390,626.82	545,020.62	154,093.80
National Transcontinental Railway	3,758,387.39	3,860,528.75	102,141.36
Total	$18,430,886.16	$17,241,298.35	.....

Ry.	Passengers carried.	Tons of freight carried.	Locomotive mileage.	Train mileage.	Car mileage.	Gross earnings per Mile of railway.	Gross earnings per Engine mile.	Gross earnings per Train mile.	Gross earnings per Car mile.	Expenses Mile of railway.	Expenses Train mile.	% of expenses to gross earnings.
Intercolonial	4,124,387	5,447,722	9,705,642	7,890,939	125,915,220	$9,181.53	$1.45	$1.87	c11.13	$8,187.74	c115.96	88.86
N. B. and P. E. I. Ry.	21,264	74,936	57,176	42,439	275,016	1,426.14	0.88	1.19	18.33	2,173.82	181.07	152.43
International of N. B.	35,950	80,770	76,404	72,500	507,469	934.14	1.37	1.44	20.60	1,041.33	160.90	111.50
St. John and Quebec	42,864	42,000	72,438	68,444	382,808	481.71	0.78	0.84	15.08	757.13	132.60	157.08
Prince Edward Island	412,535	118,862	453,503	367,614	2,280,639	1,422.07	0.36	1.06	17.41	1,982.62	148.26	139.42
Nat. Transcontinental Ry.	401,805	1,984,479	2,711,429	2,286,109	47,697,538	1,870.66	1.39	1.64	7.88	1,021.50	168.87	102.62
Total	5,038,805	8,748,769	13,078,392	10,728,045	177,058,690	.....	....	....	.....	.....	.....	.....

Cost of Maintaining Electric Locomotives

Electric locomotives on the Norfolk & Western Ry., according to that company's report for the six months ended Dec. 31, 1916, proved much more expensive to maintain and operate than steam locomotives. The average cost of repairs, power and lubricants for electric locomotive equipment per 100 locomotive miles was $6,290, while that of repairs, fuel, stores and lubricants for steam locomotive equipment was only $25.21. Repairs were respectively $32.69 and $12.70. Power and lubricants for the electric locomotives cost $30.21 per 100 locomotive miles, as against $12.51 for fuel, stores and lubricants for steam locomotives.

A table in the report divides the steam equipment by divisions and by classes of locomotive (passenger and freight). On the Pocahontas Division, which is the one electrified, repairs to freight and to passenger steam locomotives cost respectively $14.60 and $8.53, while fuel, stores and lubricants cost $15.86 and $6.01, making totals respectively of $30.46 and $14.54.

United States Railways Co-ordinated for the War.

As there appears to be a very general impression that U.S. railways have been taken over by the government in connection with the war, it may be of interest to explain the situation. Almost immediately after war was declared the U.S. railways managements undertook to produce a maximum of transportation efficiency and agreed among themselves to coordinate their operations into a continental railway system. At a meeting of railway presidents in Washington April 7, the following resolution was adopted: "Resolved, that the railroads of the U.S., acting through their chief executive officers here and now assembled, and stirred by a high sense of their opportunity to be of the greatest service to their country in the present national crisis, do hereby pledge themselves, with the government of the United States, with the governments of the several states, and with one another, that during the present war they will coordinate their operations in a continental railway system, merging during such period all their merely individual and competitive activities in the effort to produce a maximum of national transportation efficiency. To this end they hereby agree to create an organization which shall have general authority to formulate in detail and from time to time a policy of operation of all or any of the railways, which policy, when and as announced by such temporary organization, shall be accepted and earnestly made effective by the several managements of the individual railroad companies here represented."

In cooperation with the Council of National Defence and its advisory commission, the direction of this continental railway system has been voluntarily placed in the hands of an executive committee of the Special Committee on National Defence of the American Railway Association, now designated for brevity as the Railroads' War Board, and constituted as follows: Fairfax Harrison, President, Southern Ry., Chairman; Howard Elliott, Chairman of Board, New York, New Haven & Hartford Rd.; Julius Kruttschnitt, Chairman of Executive Committee, Southern Pacific Co.; Hale Holden, President, Chicago, Burlington & Quincy Rd.; Samuel Rea, President, Pennsylvania Rd. System. The ex officio members are: Daniel Willard, President, Baltimore & Ohio Rd., and Chairman of the Advisory Committee on National Defence; E. E. Clark, member of Interstate Commerce Commission.

The railways of the country have been divided into six departments, viz.: the Northeastern, Eastern, Southeastern, Central, Southern and Western, in charge of a general committee of railway managers. In addition, a number of subcommittees have been appointed, covering all parts of the country, on which railway men are handling the railway problems arising from war conditions. The foregoing plan of operation covers all service of the railways—that on behalf of the public as well as that for the government. Under this plan, the government will advise the railways what transportation service it requires, but the responsibility is upon the railway managers to provide it. For that purpose the railways will be operated practically as one system. Government business will receive preferential movement; but for regular service, every effort will be made to prevent abnormal inconvenince. It is believed that this plan will secure efficiency of service and operation.

The Railroads' War Board has notified all railways that the Secretary of War has approved the board's suggestion that the holding of conventions, which stimulate passenger travel, be discouraged, at least until the railways are more nearly able to handle the freight business that is being offered. This action by the board is another step taken to increase in every possible way the freight and troop carrying capacity of the existing railway facilities. Already carriers have been advised to adjust their passenger service and to discontinue to some extent anyway running summer excursions.

The U.S. Council of National Defence announces the creation of cooperative committees on railway cars and locomotives, to serve with the committee on transportation and communication, of which Daniel Willard, chairman of the advisory commission of the council, is chairman. S. M. Vauclain, Vice President, Baldwin Locomotive Works, is chairman of both cooperative committees. It will be the function of these two committees to assist in solving the problem of increasing the U.S. output of cars and locomotives through coordination of the efforts of manufacturers, and to aid in making as efficient use as possible of existing rolling stock. Their duties have been made unusually important through the demand of the allied countries, particularly France, Russia and Italy, for U.S. railway supplies.

Freight Statistics for 1915-16.

The total weight of freight carried over Canadian railways for the year ended June 30, 1916, was 109,659,088 tons, of which 62,950,122 originated on the home roads; 20,421,932 was received from other roads, and 26,287,034 was received from United States lines. No mention is made of freight received from overseas, which is probably treated as freight originating on the home roads. The following table shows the tons carried, with the classification under the heads mentioned:

	Originating on own Lines.	Received from other Lines in Canada.	Received from U. S. Lines.	Total Freight.
Algoma Central & Hudson Bay	729,182	7,476	.....	736,658
Algoma Eastern	1,416,492	212,622	.....	1,629,114
Atlantic, Quebec & Western	60,619	55,199	.....	115,818
Brandon, Saskatchewan & Hudson Bay	36,200	195	12,685	49,080
British Yukon	37,234	.....	.....	37,234
Canada & Gulf Terminal	27,260	5,303	.....	32,563
Canada Southern	1,177,621	608,889	6,237,975	8,024,485
Canadian Government Railways—				
Intercolonial Ry.	5,064,190	1,118,759	.....	6,182,949
Prince Edward Island	110,095	6,761	.....	116,856
National Transcontinental	1,274,337	1,389,706	.....	2,664,043
Canadian Northern	9,781,735	3,098,024	473,621	13,353,380
Canadian Pacific	21,139,674	6,093,794	2,043,404	29,276,872
Cape Breton	5,556	9,292	.....	14,848
Caraquet	28,095	16,138	.....	44,413
Crowsnest Southern	913,403	20,021	2,592	216,016
Cumberland Ry. & Coal Co.	352,259	12,350	.....	364,609
Central Vermont	78,317	284,076	117,747	480,140
Dominion Atlantic	255,868	81,862	6,703	344,397
Eastern British Columbia	97,587	1,998	.....	99,585
Edmonton, Dunvegan & British Columbia	159,906	7,224	.....	167,130
Elgin & Havelock	13,273	2,587	.....	15,860
Essex Treminal	51,295	215,147	.....	266,442
Esquimault & Nanaimo	304,016	58,462	.....	362,478
Fredericton & Grand Lake Coal & Ry. Co.	102,625	7,038	.....	109,663
Grand Trunk	8,423,940	2,337,291	8,299,571	19,060,802
Grand Trunk Pacific	1,085,726	166,328	.....	1,972,054
Hereford	100,057	7,422	2,284	109,781
International of New Brunswick	93,133	2,946	.....	95,079
Kettle Valley	126,828	64,061	16,221	207,110
Lotbiniere & Megantic	54,650	3,210	.....	57,860
Maine Central	.....	.....	239,994	239,994
Manitoba Great Northern	54,522	37,113	15,126	106,761
Maritime Coal, Ry. & P. Co.	277,626	4,450	.....	282,076
Massawippi Valley	150,721	325,721	105,400	581,842
Midland Ry. of Manitoba	4,999	31,581	134,059	170,639
Moncton & Buctouche	15,782	5,359	.....	21,141
Montreal & Atlantic	103,755	1,294,030	326,358	1,724,143
Morrissey, Fernie & Michel	635,196	20,152	90	655,438
Napierville Jct.	11,358	177,060	368,611	557,029
Nelson & Fort Sheppard	25,297	375	5,102	30,774
New Brunswick Coal & Ry. Co.	42,204	2,694	.....	44,898
New Brunswick & Prince Edward Island	52,171	9,138	.....	61,309
New Westminster Southern	64,394	16,256	.....	80,650
Ottawa & New York	72,286	253,871	138,188	464,345
Pere Marquette	116,119	326,179	2,399,056	2,841,354
Quebec Central	828,128	171,027	.....	999,155
Quebec, Montreal & Southern	82,593	231,139	41,725	355,457
Quebec Oriental	42,815	38,667	.....	81,482
Quebec Ry., Light & Power Co.	215,718	11,612	.....	227,330
Red Mountain	446	115	25,124	25,685
Roberval-Saguenay	199,251	13,076	.....	212,327
Rutland & Noyan	226	139,915	7,163	147,304
Salisbury & Albert	39,118	4,569	.....	43,687
St. John & Quebec	42,452	2,292	.....	44,744
St. Martins	15,450	3,818	.....	19,268
Sydney & Louisburg	4,822,381	100,079	.....	4,922,460
St. Lawrence & Adirondack	42,276	198,472	905,433	1,146,281
Temiscouata	151,318	8,667	.....	159,985
Timiskaming & Northern Ontario	426,584	452,726	23,511	902,821
Thousand Islands	13,258	19,607	.....	32,685
Toronto, Hamilton & Buffalo	292,764	534,162	1,470,314	2,297,240
Vancouver, Victoria & Eastern	923,933	51,265	257,130	1,232,328
Victoria T. Ry. & Ferry Co.	6,886	9,983	.....	16,869
Victoria & Sidney	7,974	12,229	.....	20,203
Wabash in Canada	62,812	21,526	2,611,553	2,695,891
York & Carleton	4,182	1,812	.....	5,994
Total	62,950,122	20,421,932	26,287,034	109,659,088

Pere Marquette Railway Reorganization.

The order dismissing the receivers who have had charge of the Pere Marquette Rd.'s affairs, for some considerable time, was signed, June 14, by U.S. District Judge Tuttle at Detroit, Mich. The company was reorganized during the past winter, the plans of reorganization having been approved by the state and federal authorities. The intervening period has been devoted to putting reorganization plans in operation and winding up the receivership affairs.

One of the most important proceedings in connection with the receivership and reorganization was the investigation into "the character of the service, physical condition of the equipment and property, financial history and transactions and practices of the P.M.R.," instituted April 24, 1914, by the Interstate Commerce Commission. It subsequently appeared that many of the transactions of the company, after July 1, 1904, were closely interwoven with the affairs of the Cincinnati, Hamilton & Dayton Ry., consequently that company's affairs were investigated also. The affairs of the latter company have no special interest for Canadian railway men, and those of the P.M.R. are only interesting in so far as they are concerned with the purchase and operation of the Lake Erie & Detroit River Ry.

The Pere Marquette Rd. was a consolidation of three lines in the U.S., brought about in 1900, and the Lake Erie & Detroit River Ry. was acquired in Aug., 1902, from Hiram Walker & Sons, of Walkerville, Ont., who were represented in the transaction by F. H. Walker. The Canadian railway had been offered to one of the combinations of capitalists which were dealing with the P.M.R. affairs, in Feb., 1902, for $6,000,000, but the offer was declined. Another group of capitalists dealing with the P.M.R. control acquired the entire capital stock of the Canadian line, 14,000 shares, at $205 a share, Hiram Walker & Sons to receive in payment therefor 20 year collateral trust gold bonds of the Pere Marquette Rd. for $2,870,000, bearing interest at 4%, the contract providing that 3% only was to be paid during the first two and a half years. The Canadian line was to be free from floating debt when the deal was consummated. This contract was finally completed in September, with the National Trust Co., Toronto, as trustee for the $2,870,000 of P.M.R. bonds, and with the P.M.R., instead of the group of capitalists who had negotiated the deal, as the purchasers of the L.E. & D.R.R. stock. The Canadian company had at the time of the sale outstanding $3,000,000 of 5% gold bonds which the P.M.R. was to acquire at $103½. The P.M.R. assumed the obligation by resolution at a special meeting, June 9, 1903, accomplishing this undertaking by the issue of $3,000,000 of its own 4½% 30 year gold bonds, secured on the L.E. & D.R.R., and guaranteed as to principal and interest by the P.M.R. The arrangements with the Canadian line were completed in Oct., 1903, but the contract was not signed until December of the same year, the prime considerations being: "1. The payment of the interest on the $3,000,000 bonds of the L.E. & D.R.R., and all other fixed charges and operating expenses. 2. The setting apart out of the earnings of the L.E. & D.R.R., as conducted by the P.M.R., of the amount of interest on the $2,870,000 bonds given in payment of the L.E. & D.R.R. stock, being a sum to equal a dividend of 6.15% on the capital stock until June 30, 1915, and a dividend of 8.20% thereafter."

These facts are all set out with considerable detail in an Interstate Commerce Commission report issued recently. The report then sums up the matter of the P.M.R. Canadian connection by pointing out that it secured trackage rights for freight traffic only over the Michigan Central Rd. to the Niagara frontier; that the operations over these lines are accounted for as a part of the operations of the whole system; that officials claim the Canadian lines pay their own way, although it is a matter of controversy between the Canadian and United States bondholders. The accounts, as written into those of the P.M.R., showed the cost of road, with final adjustments to be $4,659,891; offsetting liabilities: capital stock, $1,400,000; first mortgage 5% bonds, $3,000,000; 5% equipment bonds, $112,000; current liabilities, $147,891; total, $4,659,891. The report concludes: "The road's income and profit and loss transactions, beginning prior to Jan. 1, 1892, and including the business of the London & Port Stanley Ry., resulted in an accumulated surplus of $193,468.13 at the end of 1901. In 1902 there were extraordinary charges made to both income and profit and loss, including $13,856 paid in dividends, and these left the road on Dec. 31, 1902, with a deficit of $13,955.57. Those dividends, according to the records available, were the first ever paid. In 1903, under P.M.R. control, gross revenues increased from the $640,018.92 of 1901 to $968,875.26, practically 50%, whereas expenses increased less than 30%. The result permitted payment of the bond interest of $150,000 and stock dividends of $86,100, all according to contract, it will be observed, and left a surplus of $12,003.51."

Barbed Wire Along Railway Lines.—The Board of Railway Commissioners passed general order 196, June 29, as follows: Re sec. 254 of Railway Act and complaints filed with the board against the use of barbed wire in fences erected and maintained by railway companies in compliance with the requirements of the said section, it is ordered that in municipalities where barbed wire is prohibited railway companies are forbidden to use barbed wire in the future construction or reconstruction of fences along their respective lines; provided that barbed wire may be strung along the top of woven wire fences in stock range country; barbed wire may be strung along the top of closed board fences to prevent trespassing; barbed wire may be used along the bottom of a woven wire fence, where it is necessary to fence against pigs.

Central Ry. of Canada.—The company's solicitors in Montreal, presented a petition to the Court of Exchequer, June 28, asking for an order confirming an arrangement between the company and its creditors which had been filed with the Court, May 3, 1916. The court fixed Sept. 5, for hearing the application, and has directed any person desiring to oppose the application to file particulars on or before Aug. 28.

Canadian Pacific Railway Honor Roll 25.

Adams, John	Waiter	Montreal	Died of wounds
Armstrong, Robert G.	Hostler	Coronation	Wounded
Bailey, Edgar E. E.	Apprentice instructor	Ogden	Wounded
Barlow, Thomas H.	Clerk	Winnipeg	Wounded
Beattie, Wilfred G.	Clerk	Montreal	Wounded
Bell, George E.	Loco. man	British Columbia Dist.	Killed in action
Brown, Joseph A.	Clerk	Winnipeg	Wounded
Buchanan, George	Loco. fireman	Hardisty	Wounded
Candy, Ernest J.	Loco. fireman	British Columbia Dist.	Presumed dead
Chambers, William L.	Clerk	Winnipeg	Killed in action
Chrisp, Alfred John	Cashier	New Westminster	Wounded
Clark, Samuel	Carpenter	West Toronto	Wounded
Coles, Jack McI.	Storekeeper	Swift Current	Wounded
Crosby, Thomas G.	Agent	Francis	Wounded
Currie, James	Truck repairer	Vancouver	Wounded
Ferguson, John	Loco. fireman	Fort William	Presumed dead
Hamilton, Robert	Laborer	Strathcona	Presumed dead
Harrison, Jonathan	Loco. fireman	Red Deer	Wounded
Hawkins, Kenneth B.	Loco. man	New Brunswick Dist.	Killed in action
Heaton, Philip H.	Clerk	Moose Jaw	Wounded
Hickey, George F.	Trainman	London	Wounded
Johnson, Reginald L.	Electrician	Revelstoke	Killed in action
Keech, Ernest F.	Hammer boy	West Toronto	Wounded
Keir, D. B.	Cook	Calgary	Wounded
Kemp, Maurice T.	Steward	Toronto	Shell shock
Latimer, Archie	Yardman	Moose Jaw	Killed in action
Loewen, John	Apprentice	Nelson	Killed in action
McHardy, Andrew	Loco. foreman	Neudorf	Wounded
McIntyre, Robert L.	Conductor	British Columbia Dist.	Wounded
MacLaren, David L.	Clerk	St. John, N.B.	Wounded
Malpass, Wilfred A.	Porter	Vancouver	Wounded
Marks, Frederick	Car repairer	West Toronto	Killed in action
Masson, Robert	Cashier	Wetaskiwin	Killed in action
Miller, Frederick	Foreman	Winnipeg	Wounded
Millican, William	Loco. fireman	Fort William	Killed in action
Moore, James	Waiter	B.C. Coast S.S. Service	Wounded
Morris, David	Clerk	Lethbridge	Wounded
O'Flaherty, Lawrence	Loco. fireman	Kenora	Died of wounds
Oliver, Frederick C.	Forester	Montreal	Gassed
Parry, John	Bridgeman	Winnipeg	Wounded
Phillips, John O.	Clerk	Calgary	Wounded
Rainy, George E.	Loco. fireman	Winnipeg	Killed in action
Reynolds, William	Waiter	Winnipeg	Wounded
Roy, Charles M.	Machinist	Winnipeg	Wounded
Scott, Henry L.	Assistant Foreman	Montreal	Wounded
Stewart, William D.	Carpenter	British Columbia Dist.	Wounded
Stingel, Charles E.	Wiper	Fort William	Killed in action
Tyrrell, Roy W.	Messenger	Brantford	Wounded
Wallis, Frederick	Helper	Winnipeg	Killed in action
Watts, Arthur S.	Wiper	Arcola	Wounded
White, William	Clerk	Montreal	Wounded
Wilson, Alexander C.	Brakeman	Moose Jaw	Presumed dead
Young, Charles	Helper	Winnipeg	Presumed dead
Young, James F.	Assistant Agent	Manitou	Wounded

Up to July 3 there were shown on honor lists: Killed, 433; wounded, 940. Total, 1,363.

Toronto, Hamilton and Buffalo Railway Co's Annual Report.

Following are extracts from the annual report for the calendar year 1916: The report covers the operation of mileage as follows: Main line, 79.88 miles; branches, 20.13 miles; lines operated under trackage rights, 4.36 miles; total road operated, 104.37 miles. The decrease of 2.14 miles in road operated, as compared with the previous year, is due to a reduction of 7.39 miles, caused by a reclassification of tracks, partly offset by the extension of the Dunnville Branch from Dunnville to Port Maitland, 5.25 miles.

	1916.	1915.
Rail operations		
Revenue	$1,870,236.68	$1,404,319.55
Expenses	1,144,868.67	899,636.37
Net revenue	$725,368.01	$504,683.18
Percentage of expenses to revenues	(61.22)	(64.06)
Railway tax accruals	$20,338.78	$12,497.23
Uncollectible railway revenues	.....	1.20
	$20,338.78	$12,498.43
Railway operating income	$705,029.23	$492,184.75
Other income	87,849.05	624,278.67
Gross income	$792,878.28	$624,278.67
Deductions from gross income—		
Joint facility rent	$11,451.00	$8,774.40
Interest on funded debt.	181,144.44	171,200.00
Interest on unfunded debt	40,307.82	68,617.07
Interest on equipment trust notes	46,125.00	52,875.00
Total deductions from gross income	$279,028.26	$301,466.47
Net income	$513,028.26	$301,466.47
Dividends (two aggregating 2.25%)	101,531.25	
Surplus transferred to profit and loss	$412,318.77	$322,812.20
Amount to credit of profit and loss Dec. 31, 1915		$1,275,481.70
Add surplus for 1916		412,318.77
Add sundry adjustments (net)		138.81
		$1,687,939.28
Deduct discount, commission and expenses, Consolidated mortgage bonds of 1966, Series A	$204,627.54	
Deduct abandoned property	450.00	
		205,077.54
Balance to credit of profit and loss Dec. 31, 1916		$1,482,861.74

Freight revenue during the year was $1,239,2[illegible] an increase of $341,344.21, due to a [illegible] volume of traffic handled, there [illegible] been a substantial tonnage increase in [illegible] early all commodities. Passenger revenue was $422,460.14, an increase of $55,140.76, due to a general increase in traffic and to increased average distance each passenger was carried. Express revenue was $36,644.57, an increase of $8,191.89, due to a general increase in business. Switching revenue was $109,137.54, an increase of $28,373.71, and demurrage revenue was $32,518.50, an increase of $27,574.10, largely due to increased activity of industries at Hamilton and Welland. Dining and buffet revenue was $20,907.72, an increase of $6,015.77, due to increased passenger business. Operating revenues from all other sources decreased $633.31. Operating expenses were $1,144,868.67, an increase of $245,232.30, and were 61.22% of the operating revenues, which is 2.84% less than the operating ratio of the previous year. An increased expenditure on maintenance of way and structures was largely due to relaying more rail than in the previous year and to higher rates paid for labor. In order to handle the increasing tonnage it was found necessary to make large expenditures in maintaining and improving the power and freight train cars, notwithstanding the higher cost of labor. A number of old flat and box cars were retired, and three locomotives were replaced with power of improved type. The increase in transportation expenses is due to increased cost of labor, fuel and materials and also to the larger force made necessary in handling the greater volume of business. The increase in miscellaneous operation expenses is due to a general increase in business. The increase in general expenses is due to increased cost of supervision and miscellaneous expenditures. The decrease of $44,244.87 in other income is mainly attributable to the falling off in the credit balance for hire of equipment, on account of the greater number of foreign cars used.

On the extension of Dunnville Branch, from Dunnville to Port Maitland, 5.25 miles, $174,624.95 was spent. There were issued and sold, at 90% of par, $2,000,000 4½% consolidated 50-year gold bonds, series A, out of the $10,000,000 authorized. The proceeds were used to reimburse the treasury for expenditures on construction of a branch line, Smithville to Dunnville, 14.90 miles, and other additions and betterments and to provide for future corporate purposes.

The Toronto, Hamilton & Buffalo Navigation Co. was incorporated July 7, 1916, under Ohio State laws, with a capital stock of $400,000, all of which has been acquired and is held by the T.H. & B.R. Co. The navigation company operates a steel car ferry boat—Maitland No. 1—between Port Maitland, Ont., and Ashtabula, Ohio, approximately 91 miles, in connection with this company's line, which has, during the year, been extended from Dunnville to Port Maitland. The operation of this boat was commenced Oct. 20, 1916, and for the period ended Dec. 31 there was a resulting surplus of $6,333.63, the additional benefit of this company being increased earnings of approximately $44,000, thus justifying the wisdom of the directors in extending the road from Dunnville to Port Maitland, and establishing a ferry connection with the railways to the south of Lake Erie at Ashtabula. The assurance given by the Government that the dredging of Port Maitland harbor and the Grand River would be done to the end that a sufficient depth of water may be afforded for the handling of the largest vessels operating on Lake Erie, has been in considerable part fulfilled. During the past season about 800,000 yards of dredging has been done at the expense of the Government, and the material removed has in large part been deposited on the low lands owned by the company, fronting on the river, thereby greatly improving their value for industrial development. The dredging performed by the Government included the excavation for a turning basin opposite the car ferry slip, and the river has now a navigable depth for about two miles from Port Maitland, with a channel approximately 500 ft. wide. There is every reason to expect that dredging operations will be continued next spring and completed as nearly as is practicable, ultimately resulting in a navigable channel approximately 500 ft. wide, and having a minimum depth of 21 ft. for approximately 4 miles from the port. The plans contemplate dredging of another turning basin in the upper reaches of the river.

Fuel Consumption on Railways in 1915-16.

The consumption of fuel of all kinds by locomotives on Canadian railways increased from 5,608,954 tons in the year ended June 30, 1907, to 8,995,123 tons in the year ended June 30, 1916. The average cost per ton in the last statistical year was $3.11, against $3.02 for the immediate previous year. Following is the analysis of the figures:

Class of Locomotive.	Coal.		Wood.		Other Fuel.		Total.	Miles. Run.
	Anthracite	Bituminous.	Hard.	Soft.	Oil.	Charcoal		
Freight	2,666	5,090,339	1,716	59,532	28,097,737	9,272	5,273,546	66,491,134
Passenger	1,129	1,845,382	1,163	34,553	14,438,906	5,236	1,938,619	42,215,551
Mixed	1,050	413,648	131	5,906	906,513	480	421,425	7,610,281
Switching	.....	1,027,949	529	21,752	3,675,157	2,820	1,053,739	23,536,669
Special	55	265,237	98	4,431	1,845,617	484	307,794	5,062,313
Total	4,899	8,672,455	3,637	126,174	43,963,930	13,292	8,995,123	144,966,448

Reduction of Passenger Train Service in the United States.

In order to facilitate movements and release passenger train crews for other work, U.S. railways are making drastic reductions, compared to which those made in Canada early this year appear mild. The Pennsylvania, on its lines east of Pittsburg alone, has eliminated 102 trains, or more than double the number taken off the whole of the Canadian railways. This will cut down the passenger movement by an amount equivalent to 2,268,000 train miles a year, or over 6,500 train miles every week day. A number of parlor cars, restaurant cars and observation cars are being discontinued. The Boston & Maine has taken off 255 trains, or more than five times the number taken off in Canada, saving approximately 41,000 train miles a week. Strenuous efforts are being made to increase the carload and to impress on merchants the importance of rapid unloading, so that freight equipment may be kept busy to its utmost capacity, and terminals be kept clear. The U.S. railways realize that speed in freight movement is one of the greatest aids they can give to help to win the war, and, according to all reports, are achieving remarkable results.

Contractors' Suit.—A difference between James McDonald and Thomas McIlvenna, railway contractors, involving the question of a signature to a receipt for $1,000, was investigated before Judge Scott at Smiths Falls, Ont., July 10. McIlvenna, who had a subcontract for some C.P.R. work from McDonald, declared that his name had been forged on a receipt for $1,000 by McDonald. After a full investigation McDonald was acquitted of the charge.

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.

26210. June 11.—Authorizing G.T.R. to rebuild highway bridge carrying North Front St., Belleville, Ont., over its main tracks.

26211. June 11.—Authorizing G.T.R. to rebuild bridge 19, over Maitland River, near Palmerston, Ont.

26212. June 11.—Authorizing C.P.R. to build spur for M. J. O'Brien in Lot 17, Con. 10, Bagot Tp., Ont.

26213. June 12.—Extending the time within which Canadian Northern Ry. shall complete spur to serve Block B, Plan B, Prince Albert, Sask., authorized by order 24930, Apr. 28, 1916.

26214 June 12.—Authorizing C.P.R. to build at grade, an extension to passing siding across road allowance between Lots 24 and 25, Con. 8, Camden Tp., Ont.

26215. June 18.—Authorizing Vancouver, Victoria & Eastern Ry. & Nav. Co. (G.N.R.) to open for traffic its line from mileage 155.32 to 156.56 in British Columbia.

26216. June 18.—Ordering Canadian Northern Ry. to grade highway crossings near mileages 50.9 and 52.1, St. Clements municipality, Man., and authorizing highway crossings at 4 points; all to be completed by July 31.

26217. June 18.—Authorizing Vancouver Harbor Commissioners to join their tracks with industrial spur operated by British Columbia Electric Ry. as lessee of C.P.R., on south shore of False Creek, Vancouver, B.C., subject to city's consent.

26218. June 18.—Authorizing C.P.R. to build extension to passing siding at grade across road allowance between Lots 30 and 31, Con. 2, Pickering Tp., Ont.

26219. June 18.—Ordering G.T.R. to contribute one-fifth of watchmen's wages as appointed under order 4788, May 27, 1908, at Winchester Ave., Toronto.

26220. June 18.—Approving plan and profile showing work to be done on North Black Creek drain under G.T.R. between Gadshill and Brunner station, Ont.

26221. June 18.—Amending order 26179, June 5, re G.T.R. gates at Victoria St., Thamesville, Ont.

26222. June 18.—Ordering that wages of watchmen required under order 26183, June 5, at Church St., Weston, Ont., be paid equally by town of Weston, G.T.R. and C.P.R.

26223. June 18.—Authorizing Grenville, Harrington and Northern Ry. to build across C.P.R. at Grenville, Que., and to provide, maintain and operate half-interlocking plant there.

26224. June 18.—Approving location of C.P.R. A2 station at Riverton, Man.

26225. June 19.—Extending, for 30 days from date, time within which C.P.R. shall erect flag station at Grants Crossing, mileage 50.5, Waltham Branch, Que.

26226. June 19.—Authorizing C.P.R. to operate over crossing near Red Deer, Alta.; speed not to exceed 15 miles an hour.

26227. June 20.—Authorizing G.T.R. to rebuild bridge carrying highway between Sidney and Thurlow Tps., Ont., over its main line.

26228. June 20.—Authorizing G.T.R. to build spur for Thompson Macdonald Co., Cobourg, Ont.

26229. June 19.—Authorizing C.P.R. to extend bridge over Great Lakes Power Co.'s canal Sault Ste. Marie, Ont

26230. June 19.—Certifying that area of Grand Trunk Pacific Branch Lines Co.'s right of way in s.w. ¼ Sec. 29, Tp. 44, Range 22, west of 3rd Meridian, Sask., should read 7.48 acres instead of 7.47.

26231. June 21.—Approving proposed enw location of gates at Canadian Northern Ry. crossing of Gore St., Fort William, Ont.

26232. June 22.—Authorizing C.P.R. to open for traffic its Moose Jaw Northwesterly Branch, Sask., from mileage 50 to 64.5.

26233. June 23.—Restraining C.P.R. from cancelling trains 27 and 28, between Sault Ste. Marie and Toronto, until further order.

26234. June 22.—Amending order 26190, June 7, re C.P.R. spur for James Richardson & Sons, at Port Arthur, Ont.

26235. June 22.—Ordering Great Northern Ry. to provide a certain train service between Oroville and Princeton, and express fruit service to Vancouver, B.C.

26236. June 22.—Approving G.T.R. plan showing stock pens at Brampton, Ont; work to be completed within thirty days.

26237. June 22.—Authorizing Canadian Northern Ontario Ry. to build across Boyce Ave., Montreal.

26238. June 23.—Amending order 25889, Feb. 19, re G.T.R. crossing at Amigari, Ont.

26239. June 23.—Extending to Aug. 1, 1918, time within which C.P.R. shall complete station at Tramping Lake, Sask.

26240. June 23.—Dismissing Canadian Copper Co.'s application for order disallowing Algoma Eastern Ry. Tariff C.R.C. 167, advancing rates on ore and rock, effective Feb. 5, 1917.

26241. June 23.—Authorizinz Canadian Northern Quebec Ry. to build spur across Prince Albert St., Montreal, for S. Simard, Tetreauville, Que.

26242. June 23.—Ordering Pere Marquette Ry. to build farm crossing opposite existing crossing over Michigan Central Rd., in Lot No. 1, east ½, Con. 8, Aldborough Tp., Ont.

26243. June 23.—Dismissing complaint of J. E. Lilly & Co., Dawson, Yukon, against abrogation by White Pass & Yukon Ry. of season release with respect to certain items of Northern Freight Classification 6, providing alternative ratings based on stipulated valuations; and against amended Rule 21, Item 1, of Supplement 2.

26244. June 25.—Approving C.P.R. plans of bridge at London St., Windsor, Ont., provided proper telltales be erected and maintained on each side of bridge; and rescinding order 25771, Dec. 28, 1916.

26245. June 25.—Approving Canadian Northern Ontario Ry. plan dated Toronto, June 13, 1917, showing location of cattle pass on Lot 92, Ste. Genevieve Parish, Que.

26246. June 25.—Ordering C.P.R. to appoint agent at Senate, Sask., from Sept. 1 to Dec. 1, in each year and to provide standard portable station there.

26247. June 25.—Authorizing C.P.R. to build spur for Canada West Electric, Ltd., Regina, Sask.

26248. June 25.—Relieving C.P.R. from providing further protection at second public crossing east of Galt yard, Ont.

26249. June 18.—Authorizing Village of Forres, Sask., to make highway over C.P.R. on n.w. ¼ Sec. 36, Tp. 12, Range 29, west of 3rd Meridian.

26250. June 20.—Rescinding order 22119, July 2, 1914, re expropriation of certain Standard Fuel Co.'s land at Toronto, by Toronto Terminals Ry.

26251. June 25.—Dismissing application of Price Bros. & Co., of Quebec, Que., for reduction in arbitrary of 5c per 100 lbs. over Grand Mere basis of rates on paper, in carloads, from Jonquiere, Que., on Canadian Northern Ry. to U. S. points and requiring C.N.R. to amend its tariff of rates C.R.C. no. E-775, as supplemented, to provide through rates from Jonquiere that shall not exceed through rates from Donnacona or Grand Mere by more than 5c per 100 lbs., and continue this basis as maximum until further order.

26252. June 22.—Ordering G.T.R. within 60 days to install automatic bell at crossing near Gowanstown station, Ont., 20% of cost to be paid out of railway grade crossing fund.

26253. June 22.—Ordering G.T.R. to move crossing between Lots 5 and 6, Wenceslas Parish, Que., to centre of Lot 6; to be completed within 30 days.

26254. June 27.—Authorizing Vancouver, Victoria & Eastern Ry. & Nav. Co. (G.N.R.) to build spur for Craig-Taylor Lumber Co., Otter, B.C.

26255. June 26.—Authorizing C.P.R. to build spur for Foundation Co., Ltd., Dorval, Que.

26256. June 26.—Relieving Grand Trunk Pacific Ry. from providing further protection at crossing near Biggar, Sask.

26257. June 26.—Authorizing Village of Beauport, Que., to make highway over Quebec Ry., Light, Heat & Power Co.'s tracks near Everell station.

26258. June 26.—Limiting speed of G.T.R. trains over Marker St., and along Clarence St., Brantford, Ont., to 8 miles an hour.

26259. June 26.—Authorizing C.P.R. to build spur for Kingston Smelting Co., Kingston, Ont.

26260. June 27.—Dismissing Hadley Lumber Co.'s complaint against rate on lumber from Thessalon to Chatham, Ont., compared with lumber rate from Thessalon, Ont., to Detroit, Mich.

26261. June 29.—Ordering that rates in item 18 of C.P.R. Tariff C.R.C. no. E-3287 be continued in effect pending judgment in application for general increase of 15% in freight rates between points in Canada

26262 June 28.—Approving Salisbury & Albert Ry. Standard Freight Mileage Tariff, C.R.C. 5.

26263. June 29.—Relieving G.T.R. from providing further protection at crossing naer Richmond station. Que.

26264. June 29.—Ordering G.T.R. to install at crossing of Forks Road, Moulton Tp., Ont., 20% of cost to be paid out of railway grade crossing fund.

26265. June 29.—Ordering C.P.R. to stop train 35 at Blairton, Ont., for passengers from points east of Tweed to detrain, and to discharge express; and train 36, to allow passengers for points east of Tweed to entrain and to load express; stops to be governed by rule applied to flag stops.

26266. June 30.—Authorizing C.P.R. to open for traffic its Stirling East Branch from mileage 49.2 to 85.1; trains operated between mileage 59 and 84 limited to 25 miles an hour.

26267. July 3.—Amending order 26180, June 5, re C.P.R. station facilities at Upper Kent, N.B. N.B.

26268. June 30.—Authorizing C.P.R. to rebuild interlocking plant at crossing of G.T.R. near Komoka, Ont.

26269. June 30.—Extending for two months from date time within which Kettle Valley Ry. shall fence its right of way east of Glenfir, B.C., according to order 26129, May 21, 1917.

26270. June 29.—Authorizing Canadian Northern Ry. to build bridge across Park Foad and Moose Jaw Creek, second crossing, as revised, mileage 85.8, Moose Jaw, Sask.; and rescinding order 18003, Nov. 11, 1912, approving other plans.

26271 to 26275. June 29.—Approving Canadian Northern Ry. revised location at 5 points in Saskatchewan.

226276. June 29.—Amending order 20413, Sept. 24, 1913, re road revision to the north of C.P.R. in Scarboro Tp., Ont.

26277. July 3.—Dismissing application by Notre Dame Investment Co., Winnipeg, Man., for order directing parties interested in Canadian Northern Ry. spur between Market St. and James St., to pay their respective portions of cost of land, laying of tracks and rental, and for premises covered being vested in trustees on behalf of all owners so apying shares; or in alternative, that C.N.R. be instructed not to deliver cars to such as shall not meet demands.

26278. July 4.—Approving C.P.R. train service at Tompkins, Sask., effective June 24, and providing that trains 13 and 14 are withdrawn in the autumn, trains 3 and 4 to be made regular stops at Tompkins, instead of flag stops.

26279. July 3.—Authorizing Hart-Parr Co. to build farm crossing over C.P.R. at Saskatoon, Sask.

26280. June 28.—Authorizing Vancouver, Victoria & Eastern Ry. and Nav. Co. (G.N.R.) to break connection between spur built under order 18255, Nov. 29, 1912, and old main line, and to remove portion of latter and ordering that spur, shown in yellow on plan, be not removed for six months from date and until further order.

26281. July 4.—Ordering crossing of C.P.R. by St. Vincent de Paul Tramway, St. Vincent de Paul, Que., be protected by derails on tramway 50 ft. each side of C.P.R.; derails to be normally open, held open by spring and operated by penitentiary officials in charge of lorries; cost to be paid equally by Dominion Department of Justice and C.P.R.; and rescinding order 25598, Nov., 1916.

26282. July 3.—Authorizing C.P.R. to operate bridge 22.28, near Hainesville, N.B.

26283. July 3.—Authorizing McLaren Lumber Co., Blairmore, Alta., subject to terms of agreement, Nov. 27, 1916, to construct log flume under C.P.R. at bridge 95.6, Crowsnest Subdivision, B.C.

26284. July 4.—Authorizing G.T.R. to build sidings and spurs for British Forgings, Ltd., Toronto.

26285. July 4.—Authorizing Vancouver, Victoria & Eastern Ry. & Nav. Co. (G.N.R.) to build spur for St. Mungo Canning Co., near Townsend, B.C.

26286. July 4.—Amending Montreal & Southern Counties Ry. train schedule, effective May 6, 1917.

26287. July 3.—Authorizing Greater Winnipeg Water District Commission to carry its railway at grade across Canadian Northern Ry. Dundee Branch, in Lot 74, St. Boniface, Man.; applicant to insert diamond in C.N.R. track and crossing to be protected by half-interlocking plant; and cost to be paid by applicants.

26288, 26289. July 5.—Authorizing C.P.R. to use bridges 81.5 and 54.88, Algoma District, Ont.

26290. June 30.—Approving location of G.T.R. new station at Bronte, Ont.

26291. July 3.—Authorizing Great Winnipeg Water District Commission to carry its railway across Grand Trunk Pacific Ry. at point shown on plan; crossing to be protected by interlocked home signals, set clear for G.T.P.R. and operated by applicants' trainmen; applicants to pay cost, maintaining and operating said signals.

26292. July 5.—Authorizing C.P.R. to build spur for Energite Explosives Co. in Lot 11, Con. 3, Horton Tp., Ont.

26293. July 6.—Ordering C.P.R. to erect fences along both sides of right of way from Lavant station, Ont., south to mileage 37, by Aug. 1.

26294. July 7.—Authorizing C.P.R. to build extension to passing siding at grade across road allowance between Lots 35 and 36, Con. IX, Gore Tp., Ont.

26295. July 7.—Authorizing C.P.R. to build second passing siding at grade across road allowance between Lots 8 and 9, Con. 1, Oshawa, Ont.

26296. July 6.—Extending for six months from date time within which C.P.R. shall complete spur across Hunter St., Peterborough, Ont., as authorized by order 25986, Mar. 31.

26297. July 6.—Approving location of Grand Trunk Pacific Branch Lines Co.'s station at Red Deer Hill, Sask.

26298. July 6.—Approving Canadian Northern Ry.'s new station and site at Fort William, Ont.

26299. July 6.—Authorizing Town of Aylmer, Que., to extend Borden Crescent across Hull Electric Co.'s tracks and C.P.R. to Lake St., farm crossing at Mountain St. to be closed and Glenholm Ave. opened as shown on plan.

26300. June 30.—Ordering that gates required at crossing of Canadian Northern Ry. and C.P.R., at Bay Bridge Road, Belleville, Ont., be installed by Aug. 31.

26301. July 3.—Dismissing application of Town and Board of Trade of Carlyle, Sask., Wauchope Grain Growers' Association and Rural Municipality of Moose Mountain, Sask., for transfer track and interchange of freight between C.P.R. and Canadian Northern Ry.

26302. July 6.—Approving agreement between Bell Telephone Co. and Mond Nickel Co., Coniston, Ont., June 7.

26303. July 5.—Authorizing Hamilton St. Ry. to cross, at rail level, Hamilton Radial Electric Ry. spur on Burlington St., Hamilton, Ont.

26304. July 7.—Authorizing C.P.R. to build second passing siding at grade across road allowance between Lots 10 and 11, Con. B.F., Clarke Tp., Ont.

26305. July 10.—Ordering G.T.R., within 60 days, to install improved type of automatic bell at Riddell St., Woodstock, Ont., and maintain same; 20% of cost of installing bell to be paid out of railway grade crossing fund.

26306. July 10.—Dismissing C.P.R. application for order directing City of Lethbridge, Alta., to pay $465.61, unpaid balance of half cost of subway at Westminster Road, as per agreement, May 10, 1913, between C.P.R., Alberta Ry. & Irrigation Co. and City of Lethbridge, upon which order 20740, Oct. 28, 1913, was based.

26307. July 10.—Ordering C.P.R., within 60 days, to install improved type of automatic bell at highway east of Dragon station, Que., 20% of cost to be paid out of railway grade crossing fund.

26308. July 12.—Authorizing Bell Telephone Co. to lay, maintain and operate its telephone lines in underground conduits on certain streets in Hull, Que.

26309. July 12.—Dismissing Canadian Northern Ry. application to remove connection between C.P.R. and Winnipeg Joint Terminals line at Higgins Ave., Winnipeg.

26310. June 30.—Dismissing complaint of Western Canada Flour Mills Co., Winnipeg, against refusal of C.P.R. to furnish cars for shipments to Halifax, and against charge of $200 demurrage for delay to equipment.

26311. July 12.—Dismissing application of Minnitaki Farmers Club, Minnitaki, Man., for order directing C.P.R. to stop its no. 1 passenger train three times weekly at Minnitaki siding.

26312. July 12.—Dismissing application of Rural Municipality of Assiniboia, Man., for order compelling Canadian Northern Ry. to provide lane from Portage Ave. to property immediately to rear of station grounds at Westside, corner Estella St. Portage Ave., Westside, Man.

26313. July 10.—Authorizing G.T.R. to build spur for Adams Cellboard Co., Toronto.

26314. July 6.—Rescinding order 23314, Feb. 19, 1915, re Canadian Northern Ry. fences, gates and cattle guards between mileage 103½ and 105½ from Jellicoe, Ont.

26315. June 22.—Amending order 10457, Apr. 28, 1910, to provide that work on bridge built under this order be maintained and cost apportioned as follows: City of Lachine to maintain surface, approaches and sidewalks, remove snow and keep bridge lighted, cleaned and watered; G.T.R. to look after abutments, superstructure and guard fences; cost to be paid 62½% by G.T.R., 17½% by Montreal Park & Island Ry., 16% by City of Lachine, 4% by Town of St. Pierre, Que.

26316. July 12.—Amending order 26230, June 19, re Grand Trunk Pacific Branch Lines Co.'s right of way at certain point in Saskatchewan.

26317. July 12.—Authorizing Boston & Maine Rd. to remove speed limitation of 10 miles an hour on trains operating over Comstock bridge crossing.

26318. July 12.—Ordering C.P.R. forthwith to stop train 172 at Oakville to pick up passengers for Toronto; G.T.R. to stop train 106, due at Oakville at 9.47 a.m., for passengers for Toronto and points beyond.

26319. July 13.—Authorizing G.T.R. to connect tracks on its Districts 17 and 19 with lines constructed for Hydro Electric Power Commission of Ontario, on Lots 41, 42 and 90, Stamford Tp.

26320. July 14.—Authorizing C.P.R. to build passing track across road allowance at Grainer, Sask.

26321. July 13.—Authorizing C.P.R. to build spur for Canada Creoesoting Co., Trenton, Ont., to connect with industrial sidings now existing, and to extend bridge 0.8 on main line, spanning Ontario St., to provide for construction of spur.

General order 195. June 23.—Amending tariffs of the various railway companies re cartage charges.

General order 196. June 29.—Regulations respecting use of barbed wire by railways in municipalities where it is prohibited. This order is given in full on another page.

General order 197. July 8.—Rescinding general order 187, Apr. 12, 1917, and allowing rates named in tariffs C.R.C. 1 and 2, published by G. C. Ransom, agent, to become effective, excepting rates on sugar to Port Arthur, Fort William and Westfort for furtherance. And directing that present rail and water rates on sugar to Port Arthur, Fort William and Westfort for furtherance be continued in effect until further order.

Traffic Orders by Board of Railway Commissioners.

Paper Rates From Jonquiere.

26251. June 25.—Re application of Price Brothers Co., Quebec, for a reduction in the arbitrary of 5c per 100 lb. over and above the Grand Mere basis of rates on paper, in carloads, from Jonquiere, Que., on Canadian Northern Ry., to points in the United States. Upon hearing the complaint at Quebec, June 27, the complainants and the C.N.R. being represented at the hearing, and it appearing that the railway has published and filed a supplemental schedule to take effect July 1, the effect of which is to increase the rates from Jonquiere, as compared with those from Grand Mere, by approximately 15%, and upon the report and recommendation of the Chief Traffic Officer, it is ordered that the application be dismissed, and that the C.N.R. be required forthwith to amend its tariff of rates on paper commodities to points in the United States, C.R.C. no. E-775, as supplemented, so as to provide through rates from Jonquiere that shall not exceed the through rates from Donnacona or Grand Mere by more than 5c per 100 lb., and to continue this basis as the maximum until further order.

Lumber Rate to Chatham.

26260. June 27.—Re complaint of Hadley Lumber Co. against alleged excessive rate on lumber from Thessalon to Chatham, Ont., compared with rate from Thessalon to Detroit. Upon hearing the complaint at Chatham, May 4, in the presence of counsel for the complainant, City of Chatham, Chatham Board of Trade, and Canadian Pacific Ry., and upon the report of the Chief Traffic Officer, it is ordered that the complaint be dismissed.

Raw Sugar Rates from St. John.

26261. June 29.—Re application of Montreal Board of Trade for suspension of proposed increase in rate on imported raw sugar from St. John and West St. John, N.B., to Montreal. Upon reading the application, it is ordered that the proposed increase in rates on imported raw sugar from St. John and West St. John, by Supplement 2 to C.P.R. Tariff C.R.C. no. E-3287, to become effective July 1, be suspended; and it is further ordered that the rates contained in item 18 of the company's Tariff C.R.C. no. 8-3287, be continued in effect pending judgment in the application of the railway for a general increase of 15% in its freight rates between points in Canada.

Salisbury & Albert Ry. Tariff.

26262. Granting application of Salisbury & Albert Ry., under sec. 327 of the Railway Act, for approval of its Standard Freight Mileage Tariff, C.R.C. no. 5.

Freight Interchange at Carlyle.

26301. July 3.—The application of Town and Board of Trade of Carlyle, the Wauchope Grain Growers' Association, and the Rural Municipality of Moose Mountain, for a transfer track and interchange of freight traffic between the Canadian Pacific and Canadian Northern Railways at Carlyle, Sask. Upon hearing the application at Regina, June 21, the applicants and the railway companies being represented, it is ordered that the application be refused.

Western Canada Flour Mills Co.'s Complaint.

26310. June 30.—Re complaint of Western Canada Flour Mills Co., of Winnipeg, against refusal of C.P.R. to furnish cars for shipments to Halifax; and against the charge of $200 demurrage for delay to the said railway's equipment. Upon hearing the complaint at Winnipeg, June 22, in the presence of counsel for complainant and representatives of the C. P. R. and the Canadian Freight Association, it is ordered that the complaint be dismissed.

G. T. P. R. Overcharge on Wheat.

26328. July 17. Re complaint of Farmer's Club Grain Co., of Winnipeg, that a car load of tough wheat, G. T. Pacific, 312409, on account of the G. T. Pacific Ry.'s embargo at Fort William was shipped to Keewatin, for which movement local rates were charged to and beyond Winnipeg. It is declared that the excess charge on the shipment amounted to 2½% per 100 lb. and the G. T. Pacific Ry. is authorized to rebate to complainants the excess amount collected by it on the shipment.

Rail and Water Rates.

General order 197. July 6. Re complaints of Board of Trade of Vancouver, Edmonton, and Winnipeg, Saskatoon Branch of Retail Merchants' Association of Canada, Montreal Board of Trade, and Canadian Manufacturers' Association against the proposed increase in rail and water rates between eastern and western Canada. Upon the matter having been set down for hearing at Victoria, Vancouver, Nelson, Calgary, Edmonton, Saskatoon, Winnipeg, and Fort William; and upon hearing what was alleged by the representatives of the Associated Boards of Trade of Eastern British Columbia and the C.P.R., it is ordered that general order 187, April 12, 1917, be rescinded; and the rates named in tariffs C.R.C. 1 and 2, published by G. C. Ransom, Agent, be allowed to become effective, with the exception of the rates on sugar to Port Arthur, Fort William, and Westfort for furtherance. And it is further ordered that the present rail and water rates on sugar to Port Arthur, Fort William, and Westfort for furtherance be continued in effect until further order.

Placing of Safety Appliances on Trains.

The Board of Railway Commissioners passed general order 198, July 16, as follows: Re general order 128, July 20, 1914, and the application of the Canadian Pacific and Grand Trunk Railways for an extension of time until July 1, 1918, within which to make changes in respect of safety appliances on trains as required under said order. Upon hearing the application at Toronto, June 13, in the presence of counsel for the applicant companies, the Canadian Northern Ry., and representatives for the railway employes, the evidence offered, and upon the report and recommendation of the Board's Chief Operating Officer, it is ordered that railway companies be granted an extension of time until July 1, 1918, within which to make the changes required under general order 128, the railway companies to continue their present practice of filing with the board monthly reports of the progress made in complying with the requirements of the said order.

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

Cascade Scenic Ry. — In passing through the Dominion Parliament the bill incorporating a company with this title to build scenic railways in any part of Canada was amended by limiting the area of the company's operations to the Dominion Government parks in Alberta and British Columbia. The company's immediate object is to build a scenic railway up Cascade Mountain, Banff, Alta. (Mar., pg. 100.)

English Falls & Hudson Bay Ry.—The Dominion Parliament is being asked to incorporate a company with this title to build a railway from Brereton, Man., on the National Transcontinental Ry., to English River, at the Ontario-Manitoba boundary, thence northerly to the Hudson Bay, between the mouths of the Albany and Nelson Rivers. The company's office is to be in Toronto, its authorized capital is to be $1,000,000, and it may issue bonds for $30,000 a mile. The provisional directors are: J. G. G. Kerry, H. A. Stewart, K.C., H. A. Clark, E. L. Weatherhead, Toronto.

The Esquimalt & Nanaimo Ry.'s bridge across Victoria harbor was considerably damaged by a Dominion Government tug on June 29. Traffic was reopened over the bridge, July 9, after repairs had been made.

In connection with building a bridge at Johnson St., Victoria, which forms part of the Songhees Reserve development works, the company has submitted plans for a temporary bridge, pending the full development of plans for laying out the reserve by the railways and the city. The company already has a bridge at this point which must sooner or later be replaced. The city desires to have a traffic bridge, and proposes that a joint railway and traffic bridge be built. The British Columbia Minister of Railways favors this, but the railway company dissents. The matter has been under discussion for a long time but seems now to be in a fair way of settlement. (April, pg. 193.)

The Grand Trunk Pacific Ry. has notified the Calgary, Alta., City Council that it is agreeable to the building of a spur track to connect the main line with the city market, the company to provide the steel rails, angle irons, etc., the city to pay amortization charges, the chief of which will be on the ties. In a discussion at the city council, an opinion was expressed that the city wished to retain the right to take up the spur whenever desirable, and therefore should be sole owner. Commissioner Graves was directed to make a report. The estimated cost of the spur is $4,300.

The company has deposited with the Minister of Public Works at Ottawa, under the Navigable Waters Protection Act, plan of wharf and fish curing plant proposed to be erected in Prince Rupert harbor, B. C. (July, pg. 273.)

Grand Trunk Ry.—The Brantford, Ont., City Council has adopted a report of its committee on railways, which made four recommendations: (1) That the city waive insistence on the building by the G.T.R. of the Holmedale spur and the Eagle Place switches, and the maintenance of the Colborne St. station as a station and as a stop; (2) That the G.T.R. convey to the city the extension of Clarence St., 66 ft. wide, south through G.T.R. lands; (3) That the G.T.R. convey to the city property for the purpose of enabling the city to extend Northumberland St. westerly to the line of Clarence St.; (4) That the G.T.R. assume the total cost of the St. Paul Ave. subway as a roadway, 44 ft. wide, as directed to be constructed by the Board of Railway Commissioners. (July, pg. 273.)

Work is to be started at once on the erection of a brick station at St. Catharines, Ont. The building is to be built on a granite base. The company is erecting a similar building at Berlin, N.H., on the main line between Montreal and Portland, Me.

Great Northern Ry.—The Board of Railway Commissioners has authorized the opening for traffic of the line from a connection with the main line at Grand View cut to the station near Main St., Vancouver, mileage 155.32 to 156.56. This is the piece of line built to give connection with the new terminal station on False Creek flats, used jointly by the G.N.R. and the Northern Pacific Ry. (July, pg. 273.)

Hudson Bay Ry.—The House of Commons, on July 13, voted $3,000,000, on account of construction of this railway from Pas to Port Nelson, Man., and for terminals and elevators. The Minister said it is expected that the line will be completed to Port Nelson in November, but will not be operated this year. (July, pg. 268.)

Intercolonial Ry.—In respect of the present state of construction of the new deep water terminals at Halifax, N.S., the Minister of Railways said in the House of Commons recently: "To assist in handling the overseas shipment of stores and timber, special efforts were made to complete berths and immense temporary sheds at the new ocean terminals, Halifax. This was a big undertaking, but was satisfactorily completed by Nov. 15, 1916. When war broke out our yards could accommodate 1,844 cars in and around Halifax; we are now able to handle 3,748 cars, which is a striking indication of our overseas development at that point. The grading from Point Pleasant to Fairview has been practically completed. The substructure of the subway at Fairview has been completed and a temporary steel span erected. Two concrete highway arches, one at Mumford Road, and one at Quinpool Road, have been completed, and the foundations finished for Chebucto and Byers Roads and Prince Arthur St." The terminal works include the building of a double track line from Fairview to the terminals and the building of wharves with freight and passenger buildings thereon. These were fully described, with plans, in Canadian Railway and Marine World, Nov., 1914, pg. 496.

We are officially advised that the 10,000 tons of 85 lb. steel rails being rolled for the line by the Dominion Iron & Steel Co. will lay about 75 miles of track. These rails will be used on the main line and the released rails will be used for relaying branch lines, sidings and other appropriation work.

Tenders are under consideration for the erection of an extension to the freight shed accommodation at Halifax, N.S.

Michigan Central Rd.—We are officially advised with respect to a press report as to work being in progress on the rebuilding of the cantilever bridge across the Niagara River at Niagara Falls, Ont., that there is nothing further to be said than was said in February. At that time the Chief Engineer advised us that surveys and tests were being made, and certain preliminary work being done; that when all this was completed the company would be in a position to determine what really would be done at the bridge, either in the way of strengthening and enlarging the present bridge or of building an entirely new bridge. (July, pg. 273.)

Toronto, Hamilton & Buffalo Ry.—We are officially advised that the company has purchased some acreage at Bridgeburg, Ont., with the intention of utilizing it for a freight yard provided arrangements can be made with the Michigan Central Rd. for running rights between Welland and Bridgeburg. The proposed yard would hold about 2,000 cars. The plans have not been definitely settled, and no contract has yet been arranged with the M.C.R. (July, pg. 274.)

Mikado Locomotives for Grand Trunk Railway.

The 15 mikado locomotives which the G.T.R. is having built, 10 by Canadian Locomotive Co., Kingston, Ont., and 5 by American Locomotive Co., Schenectady, N.Y., are of the 2-8-2 type, G.T.R. class M, the numbers of those being built at Kingston being 485 to 494 and of those at Schenectady, 495 to 499.

The cylinders will be 27 in. diam. by 30 in. stroke, and the 8 driving wheels will be 63 in. diam. The extended wagon top type boiler will be 74 in. diam. at the front end and 83 in. diam. at the dome course, and the pressure will be 175 lb. a sq. in. There will be a 2-wheel truck at the front end, with 31 in. wheels, and a 2-wheel trailing truck at the back end, with 43 in. wheels. The weight on the driving wheels will be 205,000 lb., and the total weight of the engine in working order 276,000 lb. The driving wheel base will be 16 ft. 6 in., and the total engine wheel base 35 ft. 1 in. The tender wheel base will be 20 ft. 10 in., and coupled with the engine the total wheel base will be 67 ft. 6¾ in., and the total length of engine and tender over all 78 ft. 11½ in. The tractive power will be 51,637 lb., the total heating surface 3,648 sq. ft., and the grate area 56.5 sq. ft. The tender tank, of water bottom type, will carry 9,000 gal. of water and 12 tons of coal. The trucks will be fitted with equalizers and semi-elliptical springs, friction draft rigging being fitted at the back end and radial buffer at the front.

The engines will be fitted with Schmidt superheaters, valve gear, reverse gear, Franklin grate shakers, Detroit 5 feed lubricators, with special lubricator for 8½ in. cross compound Westinghouse air pump, adjustable driving box wedges, metallic packing, Gold steam heat apparatus, sanders, Buffalo brake beams on tender trucks, electric headlights and fixtures. The cylinder and piston valve bushings will be made from Hunt Spiller gun iron.

Carmen's Wages on G.T.R.—On the application of G.T.R. carmen, a conciliation board is being appointed to enquire into the men's claims regarding wages. F. H. McGuigan, formerly Fourth Vice President, G.T.R., has been nominated on the company's behalf, and C. Rodier, K.C., Montreal, will act for the employes.

Canadian Government Railways' Construction and Betterments.

The House of Commons passed the following votes recently: C.G.R. construction and betterments, $6,500,000; Dartmouth to Deans branch line, $65,000; to provide car ferry, construction, terminals, etc., $310,000.

The Minister of Railways, explaining the votes, stated that the $6,500,000 is on capital account and is not required to complete any line, but is for general betterments, distributed as follows:

Intercolonial Ry.—Buildings, $571,000; roadbed and track, $333,000; bridges, $365,200; miscellaneous, which includes $3,000,000 for Halifax terminals, $4,158,000; total, $5,426,200.

Prince Edward Island Ry.—Roadbed and track, $7,600; bridges, $900; miscellaneous, $2,200; total, $10,700.

New Brunswick & Prince Edward Island Ry—Buildings, $14,500; roadbed and track, $64,000; bridges, $55,600; miscellaneous, $4,000; total, $138,100.

International Ry of N.B.—Roadbed and track, $5,390; bridges, $1,010; total, $6,400.

National Transcontinental Ry.—Buildings, $118,900; roadbed and track, $151,100; bridges, $74,000; miscellaneous, $22,700; Winnipeg elevator, $425,000; total, $791,700.

Lake Superior Branch — Buildings. $3,800; roadbed and track, $15,400; bridges, $87,700; miscellaneous, $20,000; total, $126,900.

The Minister said in reference to the N.B. & P.E.I.R. that it is hoped to get the betterments completed this year and to relay line with track taken up from the Intercolonial main line. The government is getting 12,000 tons of rails rolled at Sydney to be laid on the main line to release lighter weight rails for branches, etc. It is desired to get this particular piece of line relaid so that when the Prince Edward Island car ferry terminals are completed the line will be in a position to handle the traffic.

The $3,000,000 proposed to be expended on the ocean terminals at Halifax will complete the unit at present in hand; the station and train shed to be built in the future is estimated to cost $1,000,000. The total cost of the Halifax ocean terminal work to the date of the discussion was $3,400,000.

Asked as to what was being done to avoid the gradient between Sackville and Dorchester, the Minister said: "We have spent considerable money in surveying to get the best route possible, and had it not been for the war I have no doubt we would have made the change before this. We will have to build nearly 100 miles to get around the gradient spoken of. Last winter the line from Truro to Halifax was exceedingly busy. We would be very glad indeed if we could go on with the work, but it is impossible now. I think we have a gradient there that will give satisfaction; it is 0.4% both ways."

In regard to the Intercolonial Ry. Dartmouth to Deans Branch, the Minister stated the amount asked is for the completion of the line. The line had not been in operation sufficiently long to have a full year's revenue reported on, but it is doing very well, better than was anticipated, and is proving a valuable feeder to the I.R.C. A telegraph line has been installed.

Referring to the Prince Edward Island car ferry vote, the Minister stated that it is hoped to take over for operation the car ferry terminals on the island and at Cape Tormentine at an early date. It had not been decided whether, when the car ferry was in operation, the steamship service between Charlottetown and Pictou, N.S., and between Summerside and Point du Chene, N.B., would be continued.

Railway Rolling Stock Notes.

The G.T.R. has ordered 1,000 box cars from American Car & Foundry Co., and 10 snow ploughs from Russell Snow Plough Co.

The C.P.R. has received 116 freight refrigerator cars and 2 steel mail cars, 60 ft. long, from its Angus shops, and 6 vans from its Winnipeg shops.

The British Government is reported to have ordered 100 consolidation freight locomotives from Baldwin Locomotive Works, at a cost of about $4,500,000, for delivery within six months.

Canadian Government Railways have ordered 2,000 box cars, 40 tons capacity, from Canadian Car and Foundry Co.; and 1,000 box cars, 40 tons capacity, from National Steel Car Co.

The C.P.R. has ordered 1,365 composite coal cars of 40 tons capacity, and 10 275% decapod locomotives from its Angus shops. The company is also having converted at its Angus shops, 600 stone cars and 1,161 steel side dump ballast cars, in order to handle the coal situation.

The G.T.R. was stated in our last issue to have ordered 10 locomotives from Canadian Locomotive Co., Kingston, Ont., and 5 locomotives from American Locomotive Co., Schenectady, N.Y. These orders were placed in March and mentioned in our April issue, with details, and were advised a second time in error.

The Russian Government is reported to have ordered 250 decapod locomotives from American Locomotive Co. and 250 from Baldwin Locomotive Works, for delivery early in 1918. The cost is stated to be about $28,000,000, and it is said that payment is practically guaranteed by the U. S. Government.

The Eastern Car Co. has delivered a further 300 cars to the Paris and Orleans Ry., France, making a total of 1,650 cars delivered to July 18, and leaving 350 to complete the order. It has also delivered to Canadian Government Railways 154 steel frame box cars, 50 tons capacity, making a total of 372 cars delivered to July 18, out of an order for 500.

Following are chief details of the 1,000 steel frame box cars, 40 tons capacity, which Canadian Government Railways have ordered from the National Steel Car Co.:

Length over striking plates	38 ft. 1¼ in.
Length inside	36 ft.
Centre to centre of truck	26 ft. 10 in.
Width, extreme	10 ft. 0½ in.
Width, inside	8 ft. 6½ in.
Extreme height from rail	13 ft. 10 in.
Height, inside	8 ft. 5¼ in.
Truck wheel base	5 ft. 4 in.
Journals	5 x 9 in.
Wheels	33 in. diam.
Draft gear	Twin spring
Couplers and bolsters	Simplex
Air brakes	Westinghouse
Journal boxes	McCord malleable iron
Truck springs	M.C.B. class B
Brake beams	M.C.B. no. 2

Canadian Government Railways have received 138 box cars, 50 tons capacity, from Eastern Car Co.; 30 box cars, 30 tons capacity, from Canadian Car & Foundry Co.; and the following second hand equipment from General Equipment Co.: 4 locomotives, 36 coal cars, 40 tons capacity; 57 of 35 tons capacity; 138 of 30 tons capacity, and 10 box cars of 30 tons capacity.

The Toronto, Hamilton & Buffalo Ry. has ordered 6 six wheel switching locomotives from Canadian Locomotive Co., of which the following are the chief details:

Weight in working order on drivers	166,000 lb.
Wheel base	11½ ft.
Wheel base, engine and tender	45 ft. 4½ in.
Heating surface, firebox and arch tubes, 142 sq. ft.	
Heating surface, tubes	1,879 sq. ft.
Heating surface, total	2,021 sq. ft.
Driving wheels, diam.	51 in.
Driving wheel centres	Cast steel
Driving journals	9 x 12 in.
Cylinders, diam. and stroke	21 x 28 in.
Boiler, type	Radial stayed
Boiler pressure	180 lb.
Tubes, no. and diam.	165-2 in.; 22-5½in.
Tubes, length	16 ft.
Brakes	Westinghouse American
Packing	King metallic
Superheaters, Locomotive Superheater Co.'s type A.	
Fire door	Franklin butterfly type
Brick arch	American Arch Co
Valve gear	Walschaerts
Reverse gear	Casey-Cavin power type
Weight of tender, loaded	110,000 lb.
Water capacity	5,500 gal.
Coal capacity	8 tons
Tank, type	U shape, steel coal gate
Truck, type	Arch bar
Wheels	Solid steel, 33 in. diam.
Journals	5 x 9 in.
Brake beams	Buffalo Brake Beam Co.
Axle boxes	McCord

Freight Rates on Grain and Grain Products East of Fort William.

The Assistant Chief Railway Commissioner, D'Arcy Scott, gave judgment, July 17, on the application of the railway companies for a general increase in rates on grain and grain products east of Fort William, stating that the board was prepared to authorize an increase of 1c in both the lake and rail, and the all rail rates, applied for in the eastern rates case, but that it saw no justification for placing the heavy burden of a permanently added 2c to the lake and rail rate for the purpose of preventing the Canadian Northern from cutting the all rail rate.

He also said: "With the allowance of increased rates in the eastern rates case, and the increase in rates from the head of the lakes just referred to, it naturally follows that certain increases in the rates on grain and grain products in the territory east of the lakes should be allowed. The system of building up through rates to points in Quebec and the Maritime Provinces, by adding to the rates to Montreal certain fixed special proportional rates, or arbitraries, while it has been criticized, is nevertheless beneficial as a means to maintain the fixed relationship in certain rates. It is not proposed to increase these arbitraries to points in the Province of Quebec, west of and including Levis and Megantic."

The judgment provided for certain other advances, and also certain reductions, and authorized the railway to issue new tariffs, to become effective Sept. 1, order 26172, of June 5, remaining effective in the meantime.

The Roadmasters and Maintenance of Way Association annual convention which was to have been held at Chicago, Sept. 18 to 21, will be reduced to two days, all of which will be devoted to routine business, discussion of reports, election of officers, etc. All entertainments, excursions, etc., will be eliminated.

Michigan Central Rd.—There has been deposited with the Secretary of State at Ottawa, a lease dated June 1, 1917, made between the Guaranty Trusts Co., of New York, as trustee, and the Michigan Central Rd., relating to the Michigan Central Rd. equipment trusts of 1917.

Lifting of Canadian Northern and Grand Trunk Pacific Railway Rails, for Shipment to France.

Canadian Railway and Marine World for June contained particulars of about 300 miles of steel rails, with the necessary turnouts, angle bars, bolts, spikes, and other track material, having been taken up from the National Transcontinental Ry., between Moncton, N.B., and Winnipeg, and shipped to France, for military railways. Of this, 98.2 miles were taken up from the N.T.R., between Moncton and Diamond Jct., 11.8 miles east of Levis, Que., and 206.6 miles were taken up between Quebec and Winnipeg. These rails, etc., were not taken out of the main line, but out of sidings and divisional yards. About two-thirds of the rails lifted have been replaced by lighter rails. The balance have not been replaced, as the sidings and divisional yards were built to take care of a very large business anticipated in the future, and will not be required for some years to come.

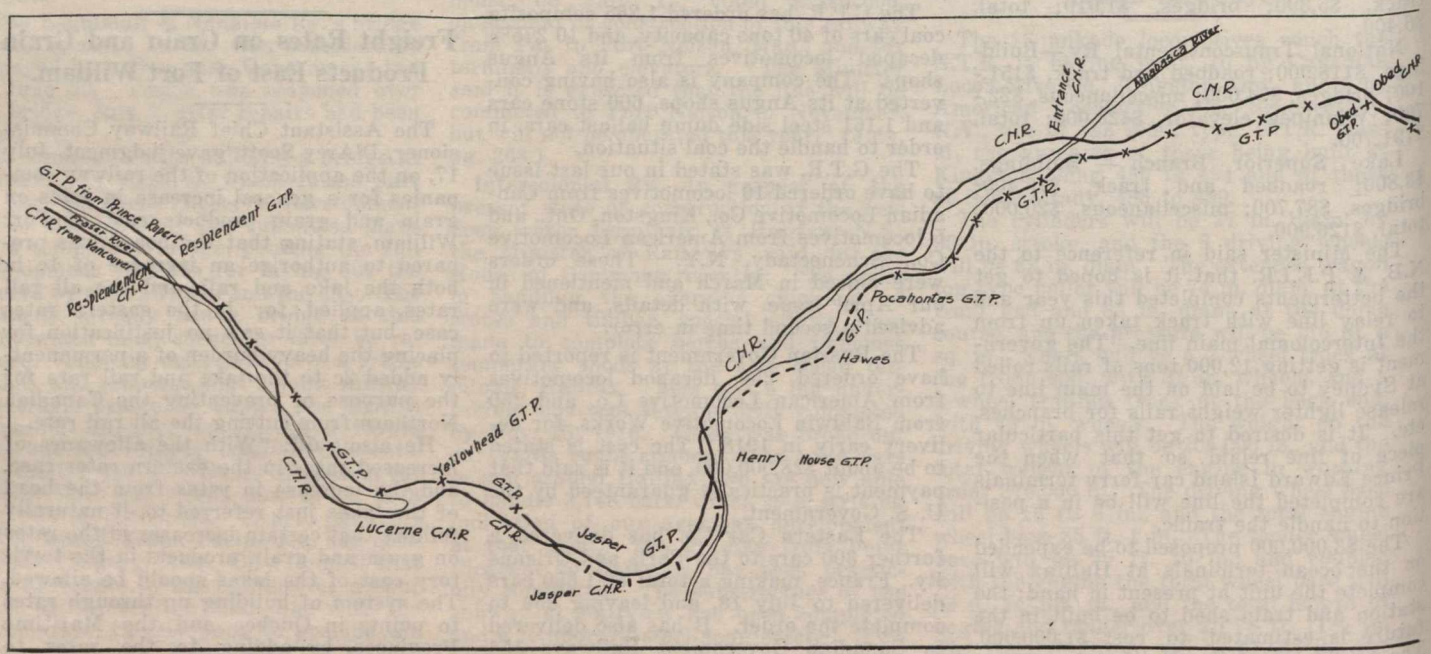
It was also mentioned that a request had been received by the Dominion Government for another 300 miles of rails, etc., which would be taken up from the Grand Trunk Pacific, west of Edmonton, where it closely parallels the Canadian Northern, and that Grand Trunk Pacific trains would be run over Canadian Northern tracks between those points. Subsequently it developed that some places, particularly Edson, Alta., would be seriously affected by removing the G.T.P. track, and the plan was changed so as to take up some G.T.P.R. and some C.N.R. track.

The track that has been, or is being taken up, is situated between Imrie, on the east, and about Resplendent, on the west. Imrie, on the G.T.P.R., is 865.6 miles west of Winnipeg, and Lobstick, the corresponding point on the C.N.R., is 906.4 miles west of Winnipeg. Resplendent, on the G.T.P.R., is 1,073 miles west of Winnipeg, and on the Canadian Northern, 1,117 miles west of Winnipeg. The accompanying map shows the main through line to be retained and to be operated by both the C.N.R. and the G.T.P.R.; the C.N.R. and the G.T.P.R. lines to be abandoned, and the G.T.P.R. line to be relaid with light steel.

Starting from the east at Imrie, G.T.P.R., rails are taken up to Chip Lake, 14.4 miles, and both G.T.P.R. and C.N.R. trains run over C.N.R. tracks between those points, a connection having been built from the G.T.P.R. to the C.N.R. at Lobstick. From Chip Lake to Dandurand, 56.9 miles, the G.T.P.R. is used by both companies, the C.N.R. being abandoned for 59.8 miles between those points. From Dandurand the C.N.R. track is utilized for both companies for about 80 miles, to near Henry House, the G.T.P.R. being abandoned, except from Pocahontas west to the new junction point with the C.N.R. The G.T.P.R. line between Pocahontas and the new junction point has been relaid with light rails, so as to maintain shipping facilities for the Jasper Park Coal Co.'s line at Pocahontas. From the point above mentioned, near Henry House, G.T.P.R. track is used to Geikie, about 25 miles, the C.N.R. being abandoned, and from Geikie, the C.N.R. is used for about 35 miles to about 2 miles east of Resplendent, from which point both companies continue to use their own lines, the C.N.R. to Vancouver, and the G.T.P.R. to Prince Rupert. On any part of the C.N.R. lines abandoned rails are removed to the G.T.P.R. roadbed, to release G.T.P.R. rails, the reason being that the specifications in this requisition for 300 miles of track are for rails and accessories precisely the same as were supplied under the first requisition, which was filled from the National Transcontinental Ry. The C.N.R. and C.P.R. rails, while of the same weight and section, have different borings, so that it is necessary to ship G.T.P.R. rails only.

By the use of the composite through line above outlined, all industries are taken care of, without having their siding accommodation lengthened, except for very short distances, with one exception, viz., the Jasper Park Coal Co., at Pocahontas, mile 1,001. In this case light rails have been laid on the G.T.P.R. roadbed, to connect with the composite line at mile 1,016. This means a temporary line of 15 miles, and, as practically all shipments of coal from this mine are eastward, it means that it must be hauled back from mile 1,016, in other words, an extra haul of 30 miles, which in one sense is considerable, but in another sense, when it is considered that most of the coal has to be hauled hundreds of miles, it is inconsiderable. It is hoped to overcome this difficulty by running a short trestle across Brule Lake, at about mile 1,001, to make a connection with the composite line, which is on the other side of the lake, but it will not be possible to give this service until the rails are lifted and the work of getting the new line operated is completed. The Jasper Park Coal Co. will therefore have some temporary inconvenience in the extra haul.

The arrangements for lifting track, and other matters connected therewith, are in special charge of G. A. Bell, C.M.G., Assistant to Minister of Railways, and Financial Comptroller of the Railways Department, and Alex Ferguson, Inspecting Engineer, the latter having been on the ground in the west for some time.



Track Lifting for Overseas Shipment, Canadian Northern and Grand Trunk Pacific Railways, Imrie, Alta., to Resplendent, B.C.

Quebec and Saguenay Ry. Purchase.—It was reported in Ottawa recently, that a bill is to be introduced by the government fixing a specific price for the purchase of the Q. and S. Ry. An act was passed last session, under which the government took over the line, the value of the property to be fixed by the Court of Exchequer. The Exchequer Court judge made an investigation and asked for instructions as to allowing interest. Nothing further was done and it is now reported that the Government will, in the new bill, fix a definite price approximating, the report says, $4,200,000.

The C.P.R. Stirling subdivision has been extended to Manyberries, Alta., by the opening up of the new section of the Weyburn-Lethbridge extension from Pakowki, 13.2 miles.

Canadian Northern Railway Construction, Betterments, Etc.

Western District.—The Minister of the Interior has been authorized by Order in Council to grant to the C. N. R. a license of occupation of a portion of the bed of Red Deer River, in the S.W. ¼ Sec. 28, Tp. 28, Range 19, west of the 4th Meridian, Alta., as a site for a railway bridge on the Saskatoon-Calgary line.

Pacific District.—it is reported that the B.C. Government has called upon the company to proceed at once with the completion of all the lines on the mainland for which provincially guaranteed bonds have been issued. This covers the branch line from near Kamloops into the Okanagan Valley, for which surveys have been made, and the terminals at False Creek, Vancouver, where considerable work is in progress. The company's traffic at present goes into Vancouver over the Great Northern Ry., the plans for its own line from New Westminster not yet having been definitely settled.

We are officially advised, in regard to the company's car shops, at Port Mann, False Creek, but that will be attended to after the completion of the sea-wall just west of the Main St. bridge. The filling in will then extend right out to the sea-wall and the Main St. bascule bridge will be unnecessary when that is done. But it may be some time next summer before that is accomplished, although it is expected to have the station and a good deal of the other terminal work done this year.

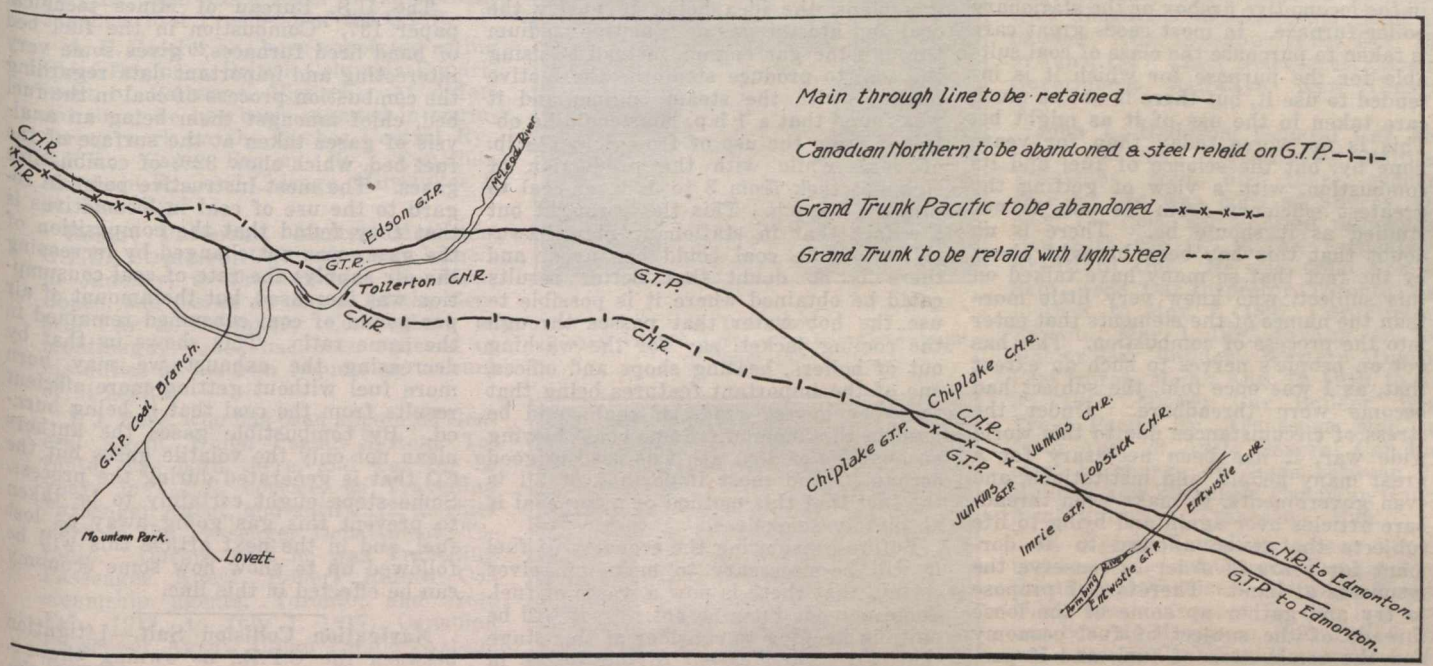
Vancouver Island.—The British Columbia Government has notified the company that it must proceed at once with the uncompleted portion of its undertakings. The time fixed by the late government for the completion of the lines on the Island was July 1, and this company asked for a further extension. There are funds arising out of the proceeds of the sale of provincially guaranteed bonds available for this work, which includes the completion of the line from Patricia Bay to Victoria the line from Victoria to Barkley Sound, and the laying out of terminals in Victoria.

The Patricia Bay-Victoria line is practically completed, and the finishing up work is in progress. A station 40 x 25

Canadian Pacific Railway Construction, Betterments, Etc.

Ontario District.—The C.P.R. has moved the old Lambton station, which about three years ago was moved from its original site, to a new one, up to the golf club grounds, where certain trains have been stopping for some years past. On the site and grounds adjoining the old station, sidings have been laid. Other sidings, principally for coal traffic purposes are necessary and the company has applied to the York Tp. Council and to the Board of Railway Commissioners for approval of the plans. The work will necessitate the closing up of a street, and the strengthening of the walls of a subway. The company proposes to provide a new street 66 ft. wide, but the township council is asking for one 80 ft. wide. The matter came before the Board July 17. Work in connection with the laying of the new sidings is in progress.

Saskatchewan District.—The Board of Railway Commissioners has authorized the opening for traffic of the Moose Jaw south westerly branch, from Vantage to



Track Lifting for Overseas Shipment, Canadian Northern and Grand Trunk Pacific Railways, Imrie, Alta., to Resplendent, B.C. (See pg. 308.)

that W. E. Suter, of Winnipeg, is in charge of filling up the plant, which will be operated by electricity generated at the company's own plant, and that no decision has been reached as to the date for the plant being started in operation.

Vancouver Terminals.—Rapid progress is reported on the work of erecting the passenger station at False Creek, Vancouver. All the foundation work has been finished, the form work for the concrete for the second story is practically in place and the concrete men are at work on that floor. Once the concrete is set for that floor, good progress can be made towards finishing the building, as there is a vast quantity of cut stone, tiling and terra cotta on the ground all ready for the completion of the structure. Meanwhile, work on the offices and freight sheds located a short distance south of the station has also been rushed and these are practically finished as far as the acting details to the offices and freight sheds are being attended to by the various subcontractors. There is a considerable amount of filling in to be done yet over the whole area of the C.N.R. grant at ft. is being erected at Cordova Bay.

Some rails have been laid on the line to Barkley Sound, but generally work is at a standstill on it, owing to shortage of rails.

It is reported that the plans for the terminals in Victoria have not been submitted to the B.C. Government for approval. (July, pg. 274.)

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

	Acres.
Calgary & Edmonton Ry.	11,286.00
Canadian Northern Ry.	3,520.00
Canadian Pacific Ry., grants	6.47
Canadian Pacific Ry., roadbed and station grounds	12.49
Canadian Northern Western Ry.	1.72
Edmonton, Dunvegan & British Columbia Ry	336.58
Qu'Appelle, Long Lake & Saskatchewan Rd. & Steamboat Co.	800.00
Total	15,963.26

D. O. Lesperance, Chairman, Quebec Harbor Board, has been appointed a senator.

Assiniboia, Sask., mileage 50 to 64.5. The extension was actually opened for traffic June 18, but regular train service was not placed in operation until June 24.

Alberta District.—The distance between Weyburn and Lethbridge, when the new line is completed, will be to 55.8 miles. This line will connect with the line into Lethbridge at Sterling, and the only section now to be built is that between Altawan, at the Saskatchewan-Alberta boundary, and Manyberries, Alta., 37.9 miles. The construction of this section is likely to be undertaken from the Manyberries end. (July, pg. 270.)

Intercolonial Railway Coal Rates.—It was announced recently that a general increase in freight rates on coal, from Nova Scotia and New Brunswick mines, had been put into effect. We were officially advised July 23 that it had been considered advisable to modify these rates for the time being, and that the rates that would be adopted eventually had not then been decided on.

Fuel Economy as Related to its Use in Steam Boilers and Locomotives.

By S. H. Pudney, Fuel Inspector, Eastern Lines, Canadian Pacific Railway.

Fuel economy is a subject that covers such a wide scope for study and investigation that it would be practically impossible to try and treat it with all the consideration that is necessary in a short paper, therefore, I will confine my present remarks to certain lines that will include the items of the heading, and will continue the subject until it has been shown how economy of fuel may be brought about. I have known of efforts being instituted for the purpose of working on the lines of better economy of fuel, but invariably they end in not much being accomplished, as they offer such a wide field that the question usually asked is, where shall we start? or in what way shall we follow up this matter? Specifically speaking, the subject of fuel economy starts with the purchasing of the coal, and continues with the shipping, handling, storing, picking up again from such storage, and the placing into the boiler houses and so on until it is placed in the locomotive firebox or the stationary boiler furnace. In most cases great care is taken to purchase the class of coal suitable for the purpose for which it is intended to use it, but there is not as much care taken in the use of it as might be. This is no worse today than for years gone by, but the science of fuel and its combustion, with a view of getting the greatest efficiency from its use, is not studied as it should be. There is no doubt that this has been brought about by the fact that so many have talked on this subject, who knew very little more than the names of the elements that enter into the process of combustion. This has got on people's nerves to such an extent that, as I was once told, the subject had become worn threadbare. Under the stress of circumstances due to this world wide war, it has been necessary for a great many people, and institutions, and even governments, to make even threadbare articles over again and bring to life subjects that were allowed to lie dormant for years in order to conserve the resources at hand. Therefore, I propose to try and gather up some of the loose threads of the subject of fuel economy and the combustion of fuel, and if possible produce something that will not only be interesting, but will stand the test of all who care to go into the matter thoroughly. I feel quite sure that the facts, as brought out in this paper, will prove of value and the suggestions worth while if tried in practice.

There never was, nor is there likely to be a time in the world's history, and to bring it nearer home to us, in the history of this country, when the economy of fuel needed to be practised, and the consequent saving, not only of fuel, but of money, which would be brought about by it, than at present. Through lack of transportation facilities and labor difficulties, there has occurred such a shortage of fuel of all kinds that there is a certain amount of strain on the nerves of all users or consumers, either great or small, such as we have not before seen in this country. The cost of fuel, as laid down for use, has enormously increased, and the conditions that have arisen have caused the more thoughtful and prominent men to seriously consider the possible reduction of our fuel supply in years to come, probably not in our time, but in years after which may then be due to a reduction of our fuel areas. This would mean a permanent shortage and in consequence of this the conservation of the natural resources of the country is being seriously considered. The United States Government has, through its Bureau of Mines, and also in various universities, been making special tests with the view of increasing the efficiency of the heating value of the fuel as used, and has proved that a tremendous increment to the mechanical power evolved through the use of coal can be obtained, which will bring the heating value of coal as used, very much nearer to the initial heating value of the coal as purchased and used under the existing everyday conditions. In the early part of the last decade, and covering a period of several years, the U.S. Government made tests at St. Louis of coal from nearly all the eastern seams, and obtained some interesting data. To my mind the most important being the tests that were made with the producer gas plant, the idea being to gasify the coal and use the gas as a motive medium through the gas engine, instead of using the coal to produce steam as the motive medium with the steam engine, and it was found that a 1 h.p. hour could be obtained from the use of from 1 to 1½ lb. of coal, while with the production of steam it took from 3 to 5 lb. of coal to produce a h.p.h. This then brought out the fact that in stationary plants two-thirds of the coal could be saved, and there is no doubt that better results could be obtained where it is possible to use the hot water that passes through the cooling jacket, say for the washing out of boilers, heating shops and offices, one of the important features being that the very lowest grade of coal could be used in this manner. Some coal showing an analysis of 45% ash was used to good account. And most important of all is the fact that this method of using coal is absolutely smokeless.

Before considering the economy of fuel it will be necessary to make ourselves certain that there is now a waste of fuel. Some persons imagine not. So it will be quite in keeping to consider at this stage the subject and extent of our losses in ordinary practice. To do this it will be necessary to quote authorities who have made numerous tests with all classes of steam boilers in an independent manner, that is to say, they were conducted in some cases under the direct supervision of the U.S. Government officials, the only object being to get correct data in regard to the extent of losses that are sustained in the use of coal in the ordinary everyday practice of steam boilers. In the U.S. Bureau of Mines bulletin 1, "The volatile matter of coal," by H. C. Porter and F. K. Ovitz, it is stated that visible smoke consists of solid particles of carbon and tar vapors, or, in other words, the heavy hydro carbon gaseous portions of the coal, both resulting from incomplete combustion of the volatile products of the coal, and that the most important unaccounted for losses shown in various tests are likely to be found in the gases that are allowed to escape unburned. The bulletin quotes E. J. Constam and P. Schlafer, who show an efficiency loss of 17.2%, and this was due to the formation of CO 3.5%, and hydrogen 1.5%. Neither of these gases is visible to the eye and escape unnoticed in practice. They also say that the reduction of boiler efficiency under these conditions may be due to several causes, chief among them being loss of sensible heat and loss of combustible gases through the somestack. In view of the high rate of firing, and the small combustion space of the locomotive, the bearing of the nature of the volatile products of the fuel and the incompleteness of their combustion may be readily seen.

In U.S. Geological Survey bulletin 402, "The utilization of coal in locomotive practice," by Prof. W. F. M. Goss, there is shown in the column for unaccounted for losses, 10.59%, and in the CO. loss, 3.60%, this all due to imperfect combustion. Not one atom of these losses would have occurred if the essential points governing the fundamental laws of combustion had been carried out. These losses occurred in tests where the firing was being done under special supervision, and there can be no doubt that much greater losses occur.

The U.S. Bureau of Mines technical paper 137, "Combustion in the fuel bed of hand fired furnaces," gives some very interesting and important data regarding the combustion process of coal in the fuel bed, chief amongst them being an analysis of gases taken at the surface of the fuel bed, which show 32% of combustible gases. The most instructive point in regard to the use of coal in locomotives is that they found that the composition of the gases was not changed by increasing the air supply; the rate of coal consumption was increased, but the amount of air per pound of coal consumed remained in the same ratio. This shows us that by decreasing the exhaust we may burn more fuel without getting more efficient results from the coal that is being burned. By combustible gases the authors mean not only the volatile gases but the CO that is generated during the process. Some steps ought certainly to be taken to prevent this gas going away as lost fuel, and in the next article this will be followed up to show how some economy can be effected in this line.

Navigation Collision Suit,—Litigation between the C.P.R., as owning the s.s. Princess Victoria, and the Pacific Alaska Steamship Co., as owning the s.s. Admiral Sampson, in connection with the collision between the two vessels, in which the s.s. Admiral Sampson was sunk near Point No Point, Aug. 26, 1914, has been concluded by a judgment of a U. S. Court made recently. A court had previously awarded $16,065 to the C.P.R., and $17,509.08 to the Pacific Alaska Navigation Co., and each of the parties petitioned for limitation of liability. The C.P.R. claim was allowed for $33,081.77, less $18,767, and less $249.77. The charterer of the s.s. Admiral Sampson showed a loss of $19,488.06, which was allowed, less $107.50 charter hire, $400 for fuel oil and $1,772.48 rentals, etc., leaving a net loss of $17,509.08. The judgment declared that interest should be added at the legal rate from the date when the voyage would have been completed, that is 21 days after Aug. 26, 1914, and included in the decree for half of the difference between the amounts of the litigants' respective losses.

The Eastern Car Co., to June 16, had shipped 1,650 box cars to the Paris & Orleans Ry. of France.

Mainly About Railway People Throughout Canada.

E. W. Kelly, station agent, C.P.R., Summerland, B.C., was drowned there, July 10, through a canoe capsizing.

Major G. W. Hayes, who died at London, Ont., June 29, was father of H. M. Hayes, station ticket agent, G.T.R., there.

G. H. Webb, Chief Engineer, Michigan Central Rd., Detroit, Mich., has been appointed Lieutenant Colonel of the Sixth Reserve Engineers, Detroit.

Capt. M. J. Powers, U.S.R., General Passenger Agent, Delaware & Hudson Co., Albany, N.Y., has been granted leave of absence for active military service.

F. H. Phippen, K.C., General Counsel, Canadian Northern Ry., Toronto, has been elected a director of Tooke Bros., Ltd., manufacturers of shirts, collars, neckwear, etc., Montreal.

Mrs. Meighen, widow of the late Robert Meighen, director, C.P.R., and mother of Brigadier General F. S. Meighen, director, C.P.R., died at her home in Montreal, July 12. She was a sister of Lord Mount Stephen, first President of the C.P.R.

A. F. Proctor has been appointed acting Chief Engineer, British Columbia Department of Railways, Victoria. At different times he has been engaged in engineering work on the Quebec Central Ry., C.P.R., Cape Breton Ry., Canadian Northern Ry., and Chicago, Milwaukee & St. Paul Ry.

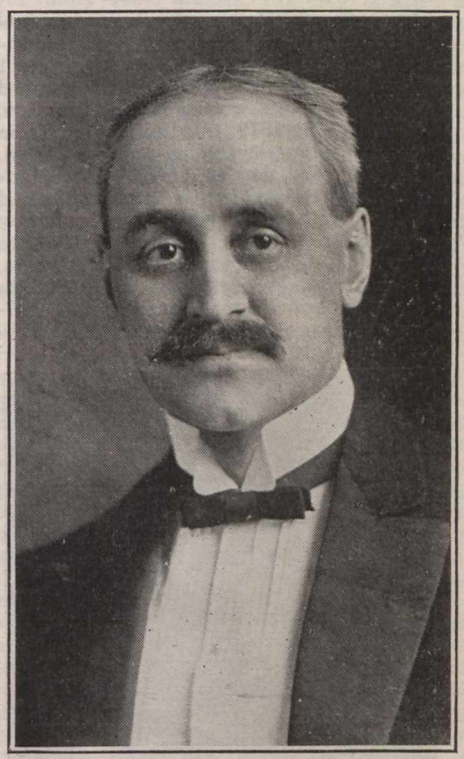
Robert Patterson, Master Mechanic, G.T.R., Stratford, Ont., who was loaned, in January, to the Imperial Munitions Board, and placed in charge of the General Car & Machinery Co.'s plant at Montmagny, Que., has been relieved of his duties at his own request on account of ill health.

J. J. Rose, who has been appointed General Agent, Union Pacific System, Toronto, was born there, and was for 25 years in C.P.R. service, as Travelling Passenger Agent, and until 1912, as chief clerk in the Passenger Department, Toronto. During 1912 he was Travelling Passenger Agent, Robert Reford Co., steamship agents, Toronto, and from Feb., 1913, to July 1, 1917, Canadian Passenger Agent, Union Pacific System, Toronto.

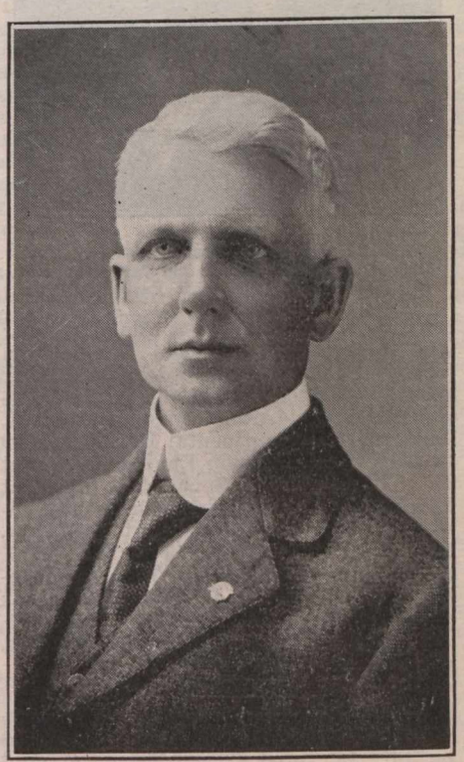
Charles William Stokes, who has been appointed Assistant General Publicity Agent, C.P.R., Montreal, was born in London, Eng., July 27, 1886, and entered C.P.R. service in 1907, since when he has been, to 1911, chief clerk, European Advertising Department, London, Eng.; 1912 to 1916, chief clerk, Publicity Branch, Natural Resources Department, Calgary, Alta.; 1916 to June, 1917, Assistant Publicity Agent, same department, Calgary, Alta.

F. B. Tapley, who has been appointed Assistant Engineer of Maintenance, all lines, Canadian Government Railways, Moncton, N.B., was born at St. John, N.B., Oct. 17, 1876, and entered C.P.R. service in July, 1903, since when he has been ,to Apr., 1905, rodman, St. John, been, to Apr., 1905, to Apr., 1907, transit man, St. John, N.B.; Apr., 1907, to July 1, 1908, acting Resident Engineer, Belleville Jct., Ont.; July, 1908, to Dec., 1911, Resident Engineer, Belleville Jct., Ont.; Dec., 1911, to Oct., 1913, Resident Engineer, London, Ont.; Oct., 1913, to June 30, 1917, Assistant Engineer in office of Assistant Chief Engineer, Eastern Lines, Montreal.

James Hunt Norton, whose appointment as Division Freight Agent, Canadian Government Railways, Halifax, N.S.,



A. T. Weldon,
General Freight Agent, Canadian Government Railways



K. Stewart,
Assistant Superintendent, District 4, Intercolonial Division, Canadian Government Railways

was announced in our last issue, was born at Shaftesbury, Eng., Apr. 21, 1884, and entered Canadian Government Railways service, June 1, 1899, since when he has been, to Dec. 31, 1909, in various positions in Car Service Department, from office boy to secretary to Car Accountant; Jan. to Sept., 1910, clerk in General Freight Agent's office; Sept., 1910, to Apr. 30, 1912, secretary to General Freight Agent; May 1, 1912, to Sept. 30, 1916, assistant chief clerk, General Freight Department; Oct. 1, 1916, to May 31, 1917, chief clerk to General Freight Agent, all at Moncton, N.B.

Kempton Stewart, whose appointment as Assistant Superintendent, District 4, Intercolonial Division, Canadian Government Railways, New Glasgow, N.S., was announced in our last issue, was born at Little River, N.S., Oct. 21, 1868, and entered Intercolonial service, Oct. 29, 1883, since when he has been, to Feb., 1888, operator, Oxford, N.S.; Feb., 1888, to Nov., 1890, operator and relieving agent, Spring Hill Jct., N.S., and various other points; Nov., 1890, to Feb., 1893, operator and relieving dispatcher, Truro and Point Tupper, N.S.; Feb., 1893, to Oct., 1912, trick dispatcher and relieving Chief Dispatcher, New Glasgow, N.S.; Oct, 1912, to June, 1917, Chief Dispatcher, Canadian Government Railways, New Glasgow, N.S.

John L. Hodgson, General Car Foreman, Canadian Government Railways, Transcona, Man., died there, suddenly, July 6. He was born at Simcoe, Ont., Nov. 15, 1858, and entered railway service with the G.T.R. as carpenter at Brantford, Ont. He was, from Apr. 1 to Sept., 1888, Car Inspector, Toronto; Sept. 1, 1888, to Mar. 1, 1897, Car Foreman, Toronto; Mar. 1, 1897, to Aug. 12, 1913, Master Car Builder, Western Division, Port Huron, Mich.; Aug. 12, 1913, to Aug. 23, 1915, Master Car Builder, Grand Trunk Pacific Ry., Transcona, Man.; and from Aug. 23, 1915, General Car Foreman, in charge of shops between Fort William and Winnipeg, Canadian Government Railways, Transcona, Man.

M. Frank Tompkins, whose appointment as Assistant General Freight Agent, Canadian Government Railways, Moncton, N.B., was announced in our last issue, was born at Margaree, N.S., Dec. 6, 1878, and entered Canadian Government Railways service Nov. 23, 1896, since when he has been, to Feb. 1, 1900, telegraph operator at various points; Feb. 1 to May 1, 1900, freight clerk, Truro, N.S.; May 1, 1900, to Sept. 1, 1902, freight clerk, Sydney N.S.; Sept. 1, 1902, to July 1, 1903, accountant in Superintendent's office New Glasgow, N.S.; July 1, 1903, to July 1, 1904, telegraph operator, New Glasgow, N.S.; July 1, 1904, to Jan. 1, 1911, relieving agent at various points; Jan. 1, 1911, to Nov. 30, 1914, chief clerk, Division Freight Agent's office, Halifax, N.S.; Nov. 30, 1914, to June 1, 1917, Division Freight Agent, Halifax, N.S.

Campbell Ross Mackenzie, who has been appointed General Manager's Assistant, Western Lines, Canadian Government Railways, Winnipeg, was born at Toronto, Jan. 10, 1883, and entered railway service in 1898, since when he has been, to 1900, tranship clerk and freight biller, C.P.R., Toronto; 1900 to 1902, stationery clerk, Algoma Central & Hudson Bay Ry., Sault Ste. Marie, Ont.; 1902 to 1903, clerk to Auditor of Freight and Passenger Receipts, G.T.R., Montreal; 1903 to 1913, Superintendent's accountant, C.P.R., successively at Farnham,

Que., Ottawa, Ont., and Medicine Hat, Alta.; 1913 to 1914, in private business in Medicine Hat, Alta.; Aug. 1, 1914, to May 1, 1915, General Superintendent's Accountant, Canadian Government Railways, Moncton, N.B.; May 1, 1915, to June 1, 1917, chief clerk to General Superintendent, Transcontinental Division, Canadian Government Railways, Cochrane, Ont.

W. A. Cooper, Manager, Sleeping, Dining and Parlor Cars and News Service, C.P.R., Montreal, has been appointed by the Food Controller, as a member of the Food Consumption Central Committee, which will particularly take steps to provide for the conservation of food, and the prevention of its waste, and will govern its consumption in hotels, restaurants, clubs and private houses. He was born at Montreal, Mar. 22, 1871, and entered railway service in Feb., 1886, since when he has been, to June, 1891, secretary to Assistant General Manager, G.T.R.; June, 1891, to Dec., 1894, chief clerk to General Superintendent, Eastern Division, C.P.R., Montreal; Dec., 1894, to July, 1897, Inspector, Sleeping and Dining Car Department, same road; July, 1897, to Dec., 1905, Assistant Superintendent, same department; Dec., 1905, to Aug., 1908, Superintendent, same department; Aug., 1908, to Feb. 1, 1913, General Superintendent, and since Feb. 1, 1913, Manager, Sleeping, Dining and Parlor Cars and News Service, same road, Montreal.

H. T. Ruhl, who has been appointed Engineer, Maintenance of Way and Structures, Delaware & Huson Co., Albany, N.Y., was born at Mifflinburg, Pa., Sept. 29, 1882, and entered railway service, Sept. 22, 1902, since when he has been, to June, 1904, rodman, C.P.R., Nomingue, Que.; June, 1904, to July, 1905, transit man, Construction Department, Residency 2, Toronto-Sudbury Branch, C.P.R.; July to Aug., 1905, transit man on location, C.P.R., Ingersoll, Ont.; Aug. to Oct., 1905, transit man, on bridge surveys, C.P.R., Coldwater, Ont.; Oct., 1905, to Jan., 1906, transit man, on bridge surveys, C.P.R., Parry Sound, Ont.; Jan. to May, 1906, transit man on location, C.P.R., Parry Sound, Ont.; May, 1906, to Jan., 1908, Resident Engineer on Construction, C.P.R., Point au Baril, Ont.; Jan. to Oct., 1908, Resident Engineer on Construction, C.P.R., Muskoka, Ont.; Oct., 1908, to Nov., 1909, transit man on maintenance, C.P.R., North Bay, Ont.; Nov., 1909, to Oct., 1911, Resident Engineer, C.P.R., Sudbury, Ont.; Oct., 1911, to Sept., 1913, Resident Engineer, C.P.R., Farnham, Que.; Sept., 1913, to Nov. 20, 1915, Resident Engineer, Intercolonial Ry., New Glasgow, N.S.; Nov. 20, 1915, to June 15, 1917, Division Engineer, Canadian Government Railways, Moncton, N.B.

F. C. Gamble, M.Can.Soc.C.E., Chief Engineer, British Columbia Railways Department, whose connection with the government service has been severed, was born at Toronto, Oct. 23, 1848, educated at Upper Canada College, and moved to British Columbia about 30 years ago, on his appointment as Assistant Engineer on the government section of the C.P.R. above Yale. He was later transferred to the Dominion Government Public Works Department in B.C., and in 1887 was appointed Resident Engineer of the department there, in charge of all river and harbor improvements, public buildings and wharves, the dock at Esquimalt and the telegraph service. He resigned from Dominion service in 1897 on his appointment as Public Works Engineer and Inspector of Dykes for the Provincial Government, and in 1911 he was appointed Chief Engineer of the Provincial Railways Department. He was President, Canadian Society of Civil Engineers, in 1915, and is ex officio a member of the council of the society. He is also a member of the American Society of Civil Engineers.

Augustine V. Redmond, whose appointment as Division Engineer, Transcontinental Division, Canadian Government Railways, Cochrane, Ont., was announced in our last issue, was born at Kingston, Ont., May 16, 1879, and graduated from Queen's University, Kingston, in April, 1903, with the degree of B.Sc. He entered railway service in May 1903, and was to Dec. 1903, engaged on concrete construction on the C.P.R.; Jan., 1904, to July, 1905, leveller on location surveys, Grand Trunk Pacific Ry.; Aug. 1905 to Oct. 1907, transit man and acting engineer in charge of location surveys, District E, National Transcontinental Ry.; Jan. to Oct. 1908, Resident Engineer on location and construction, Canon City pipe line, Canon City, Col.; Oct. 1908 to Oct. 1909, Resident Engineer, District E, National Transcontinental Ry.; Oct. 1909 to May, 1915, Division Engineer, District E, N.T.R.; June to Sept. 1916, Resident Engineer, District 2, Transcontinental Division, Canadian Government Railways, Cochrane, Ont.; Oct. 1916 to Mar. 1917, acting Division Engineer, Transcontinental Division, C. G. R., Cochrane, Ont.; April to May, 1917, Resident Engineer, District 2, Transcontinental Division, C.G.R., Cochrane, Ont.

W. A. Cooper,
Manager, Sleeping, Dining and Parlor Car and News Department, Canadian Pacific Railway

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Canadian Government Railways Operating Charges.—The House of Commons on July 14, voted $25,000,000 on account of operating expenses for the current financial year. It was explained by the Minister of Railways that this amount would be distributed as follows: Intercolonial Ry., $16,000,000; National Transcontinental Ry., $8,000,000; Prince Edward Island Ry., $750,000; International Ry. of New Brunswick, $250,000.

Railway Finance, Meetings, Etc.

Algoma Central & Hudson Bay Ry., Algoma Central Terminals, Ltd.—A circular was issued by the bondholders committee recently to holders of the 5% first mortgage 50 year gold bonds, announcing that the arrangement scheme had been made effective. The accounts for the 21 months of the receivership showed that the net income of the companies, including the deposit and other interest, but before charging bond interest, terminals rent, or providing for depreciation, was $830,007. From this is to be deducted interest on the equipment trust bonds, $56,323, leaving $773,684, or approximately £155,000, from which must be deducted £31,000, being 3% interest payable to A.C.T., Ltd., bondholders for the year ended Aug. 1, 1915, leaving a balance of £124,000 subject to provision for depreciation and contingencies. The committee considered that the balance should be held available in Canada to provide for depreciation, renewals, repairs and contingencies, and that no further payment on account of interest should be made at present on the bonds of the terminal company or of the railway company. The committee reported that it was evident that the undertakings required very careful handling and nursing, and that the next year or two should be devoted to reorganizing the concerns and putting them into a condition to make the best of their opportunities.

Atlantic Quebec and Western Ry.—The first mortgage bondholders are being asked to assent to a modification of their rights, to enable the company to tide over the conditions created by the war. The Quebec Government land grant is part of the bondholders' security, and the cash derived from its sale is paid over to the trustees, who have invested it, and regularly supplement the principal by the annual interest. It is proposed that the interest shall be diverted to help to pay operating expenses, and that what is left should be used in meeting the bond interest. If there is nothing to meet the bond interest, it is suggested that the interest should be waived altogether. It is also suggested that the land grant investments should be realized and the proceeds devoted to the purchase of rolling stock and for other capital purposes.

Pacific Great Eastern Ry.—The British Columbia Minister of Finance was officially notified recently that the P.G.E. Ry. was not prepared to meet the interest on its bonds, guaranteed by the province, falling due July 1. The government has provided the money necessary to pay the interest; about $423,000. The government had previously paid interest on the guaranteed bonds as follows: Jan. 1916; $316,016.80; July, 1916, $315,366.39; Jan., 1917, $422,444.08.

Timiskaming & Northern Ontario Ry.—Passenger earnings for May, $57,719.46; freight earnings, $118,473.50; total earnings, $176,192.96, against $54,720.76, passenger earnings; $119,302.65, freight earnings; $174,023.41, total earnings, for May, 1916.

White Pass and Yukon Route. Gross earnings from Jan. 1 to June 7, $290,000 against $247,837 for same period 1916.

The International Railroad Blacksmith's Association has postponed for a year its annual convention, which was fixed to be held in August at Chicago.

Important Changes in Handling Less Than Carload Freight.

Plans which will be put in effect shortly will effect a complete change in the methods of receiving, loading and forwarding less than carload freight, of all descriptions, upon all portions of the Pennsylvania Rd., east of Pittsburg. The new arrangements will constitute probably the most far reaching improvement that has ever been attempted, on a large scale, in freight transportation practices. The present custom of receiving less than carload freight indiscriminately, at all stations, at any time of the day, for all destinations, which has been followed since the early days of railroading, will be abolished. In its place there will be substituted a carefully devised plan whereby the acceptance and loading of freight, in less than carload lots, will be conducted according to a regularly established system, and such freight will be automatically concentrated into full loads at the point of shipment.

The two most important features of the new plan for handling less than carload freight are: 1. The inauguration of shipping days, or substantially "sailing dates," on which cars will depart from various points of origin to specified destinations. Freight will be accepted on the proper shipping days only, and the cars will "sail" as specified. 2. The designation of particular stations at which freight will be exclusively received for specified destinations; freight for such points will be accepted at the stations named only. The new plan represents the results of prolonged investigation, conducted by the Pennsylvania Rd. officers, for the purpose of determining the best practical means of obtaining increased efficiency and dispatch in the handling of less than carload freight. The primary purposes for the adoption of the new method are four fold: 1. Elimination of delay incident to rehandling of freight under the present methods of consolidating small shipments into full carloads at transfer stations. This will give the shipper quicker service than is possible under the old method. 2. Conservation of car supply by effecting better average loading than is possible under the transfer system. This will increase the cars available for commercial freight, as well as government supplies. 3. Reduction in number of car and train movements required to transport a given volume of freight. This will increase the capacity of the whole railway's plant, and will release trackage and locomotives for the movement of troops, government supplies and commercial freight. 4. Improvement in the regularity of freight service by systematizing and simplifying operation. This will result from the elimination of a large proportion of the complicated rehandling of freight, which is now unavoidable, with the attendant liability to damage. It is the belief of the management of the railway that the proposed change will increase the efficiency, promptness and regularity of the freight service, and therefore will commend itself to shippers as facilitating the conduct of their business.

Under the present method of handling less than carload freight, a shipper having a small consignment to transport from city A to city B can take his goods to any freight station in city A at any time during the ordinary working hours. In the course of the day, or perhaps the next two or three days, the freight will be loaded into a car and run out to a transfer station, which may be a few miles, or more than 100 miles, distant. There it will be unloaded and trucked into another car, in which numerous small shipments, from many other points, for city B are being consolidated in the effort to make up a full car. Under the proposed plan there will be certain days on which less than carload freight for city B will be accepted at one or more specified stations in city A, and such freight will be accepted only on the days, and at the particular station, or stations, named. On the days specified a car for city B will leave the originating station or stations. The service will be daily, tri-weekly, semi-weekly or weekly, according to the average volume of traffic, and freight for city B will be taken only in such cars. Under this method there will be no subsequent transferring or rehandling of the freight, and the car will move straight through to city B without breaking bulk.

In large cities, where a number of freight stations are maintained, traffic to the various principal destinations will be apportioned between the stations. For example, where conditions permit, very large shipping centres will be subdivided into zones, each embracing several freight stations. From each zone service will be given on specified days to a number of destinations. In such cases cars for various points will be alternated between the stations in a given zone. If, for instance, a certain zone, containing several freight stations, is to have three cars a week to a certain desination, the car may leave station A on Monday, station B on Wednesday, and station C on Saturday. This will equalize drayage distance between shippers in various portions of the zone.

To eliminate the congestion of trucks and teams occurring at nearly all large freight stations in the afternoon, the "sailing hours" of cars for certain destinations will be made earlier than the general closing time of the station. To illustrate—at a station from which several regular cars are operated daily, to sundry destinations, the "sailing time" for the cars to city B and city C may be fixed at noon and for city D and city E at 1 p.m., while freight for other points may be accepted up to the closing hour. This will require the delivery of a considerable quantity of freight in the morning hours of the "sailing day." The result will be to distribute the receipts throughout the day, extend the capacity of the station and facilitate the movement of traffic. Shippers will be ,enefited, as their teams and wagons will not be forced to stand idle for several hours before being able to get to the platform, as is often the case under the present conditions.

The application of the plan at smaller stations—those at which less than carload freight would not accumulate into carloads with sufficient frequency to operate through cars to any given point—will be limited to the establishment of shipping days. It is the intention to continue sufficient local "pick-up" freight service to meet the requirements for that form of service. One important result which the plan is expected to bring about will be a reduction in loss and damage to freight, owing to the greater promptness with which it will be loaded and dispatched. The simplification of railway operation, as well as the elimination of rehandling of less than carload freight at transfer stations, will also diminsh the amount of freight going astray.

The proposed plan is being worked out on scientific lines. A most careful and elaborate study has been made of the movement of less than carload freight to and from all points on the entire Pennsylvania Rd. and its connections, and the nature and frequency of service to be afforded at each station will be based upon that study. Future changes in the current of traffic will be taken care of promptly as they become evident. A conservative estimate shows that the adoption of the proposed plan will result in the saving of at least 1,000 box cars a day in the handling of less than carload freight on the lines east of Pittsburg and Erie. The new plan will be put into effect first in the Philadelphia district, where it will become operative in the near future. As soon thereafter as possible it will be applied at New York, Baltimore, Pittsburg and Buffalo, following which it will be inaugurated at all stations. When making the new plan effective in any locality it will be explained, as to its purpose and method of operation, to the local board of trade, chamber of commerce and other trade bodies. This duty will be performed personally by the various division freight agents. The working out of details for the various stations will be completed, on each grand division, under the joint direction of the Superintendent of Stations and Transfers and the division freight agent, representing respectively, the transportation and traffic departments. They will be assisted in this work by the division superintendents' staffs.

Last winter some of the principal Canadian railways adopted the principle of consolidating carload freight, but have not extended it to the same extent as is being done by the Pennsylvania. The matter was discussed at a meeting in Toronto early in July, and committees were appointed to work out details for an extension of the system.

C.P.R. Stations in Ottawa and Hull.—The Board of Railway Commissioners has granted the company permission to handle its Hull passengers at Beemer station, Que., instead of the city station used heretofore. The commissioners heard the objections against the closing of Broad St. station, Ottawa. E. P. Flintoff the company's solicitor, stated that while the company had not been petitioned or asked to close the Broad St. station, it had been under the impression for several years that such a change would be welcomed by the greater majority of those in Ottawa who were frequent travellers. An order in the matter will be issued in due course. It is said that all passenger trains will be operated into the central station, Ottawa, and that freight trains will be operated into Broad St. Considerable work will be necessary at the G.T.R. central station before the C.P.R.'s Ottawa passenger business can be centralized there, and it is not yet known how soon it can be done. The closing of the present Hull station will then be necessary. Beemer station is also in Hull, being on the main line, within a short distance of Hull station ,and when the change takes place all the Hull business will be handled there. Its location, both as to the city of Hull and the electric railway lines, is much more convenient for the travelling public than the present Hull station.

Minister of Railways' Statements on Canadian Government Railway Operation.

The Minister of Railways, in introducing his estimates in the House of Commons recently, said the Canadian Government Railways now extended to 4,063 miles, made up as fololws: Intercolonial, 1,562; National Transcontinental, 2,009; Prince Edward Island, 275; International of New Brunswick, 112; St. John & Quebec, 105.

During the financial year ended Mar. 31, the Intercolonial earned $16,802,290, and the expenditures were $15,664,577, giving a surplus of $1,137,713, which will be absorbed by the equipment renewal account. The surplus at Mar. 31, 1916, was $1,517,295.

On the National Transcontinental the earnings were $5,916,550, and the operating expenses $7,883,177, compared with $3,758,387 and $4,410,528 respectively for the 11 months ended Mar. 31, 1916. The deficit for the year was $1,966,627 against deficit of $625,141 at Mar. 31, 1916.

The Minister did not give any separate figures for the Prince Edward Island Ry., the International Ry. of New Brunswick, or the St. John & Quebec Ry., but concluded his references to the operations of the government railways by stating that the earnings of the entire system were $23,465,566, compared with $18,373,143 for the previous year, while the operating expenses were $24,645,433, against $17,797,061 for the previous year. The deficit on the combined operations was $1,179,867, against $576,182 in the previous year. The deficit on the years operations was, he explained, due to increased wages, the increased cost of coal, extre weather conditions, which caused an expenditure of $169,288 on the Intercolonial for snow fighting, as compared with $64,757 in the previous year, and the necessity of establishing train service on the National Transcontinental not yet warranted by the business offering.

The total number of passengers carried over the system for the year 1916 was 5,673,796. Included in this number were 277,135 millitary and naval passengers. There weer few accidents, no passengers had been killed, but 22 had sustained injuries.

Sir James Lougheed laid before the Senate, June 19, the following statement as to the earnings of the Intercolonial and the National Transcontinental Railways for the following three districts:

District	Track mileage	Passenger Earnings	Freight earnings	Mails and express.	Total.	Less miscellaneus.	Grand total.	Earnings per mile.
No. 5. Moncton to Diamond Jc. Via Transcontinental.	456	$ 64,128.96	$1,147,920.17	$ 9,270.84	$1,221,319.96	$ 178,291.38	$ 1,043,028.59	$ 2,292.37
No. 1. Montreal to Mont. Joli.	355	1,830,510.61	3,981,529.89	335,989.85	6,167,930.35	302,531.89	5,865,398.46	16,522.25
No. 2. Mont Joli to Moncton, including Br'ch Derby Jct. to Fredericton.	421	1,231,067.66	2,172,261.76	235,718.58	3,639,078.30	105,629.30	3,533,448.96	3,392.99

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

Week ending July 6, 1917.	Wheat. bushels.	Oats. bushels.	Barley. bushels.	Flax. bushels.	Totals. bushels.
Fort William—					
C.P.R.	954,647	470,849	35,867	.....	1,461,363
Consolidated Elevator Co.	358,689	248,661	9,725	45,218	662,293
Empire Elevator Co.	248,009	211,479	23,757	117,326	594,571
Ogilvie Flour Mills Co.	501,449	105,970	5,738	.....	613,157
Western Terminal Elevator Co.	386,602	140,044	10,394	260,810	797,850
G.T. Pacific	644,401	544,490	38,034	53,480	1,280,405
Grain Growers' Grain Co.	598,772	295,576	13,800	.....	908,247
Fort William Elevator Co.	436,838	155,785	15,818	106,961	715,402
Eastern Terminal Elevator Co.	243,967	266,569	8,465	.....	521,001
Thunder Bay Elevator Co.	527,072	155,589	16,853	34,559	734,073
Port Arthur—					
Port Arthur Elevator Co.	1,356,269	1,042,398	73,854	74,955	2,547,476
D. Horn & Co.	125,062	84,013	23,984	61,699	294,758
Dominion Government Elevator	1,251,628	588,829	51,825	133,861	2,026,143
Grain afloat	.....	.....	.....	.....	.....
Total Terminal Elevators	7,633,405	4,312,052	328,213	882,869	13,156,739
Saskatoon Dom. Govt. Elevator Co.	155,152	97,279	4,022	9,845	266,298
Moose Jaw Do. Govt. Elevator	414,009	153,390	6,824	5,546	579,769
Calgary	92,275	95,200	9,668	591	197,734
Vancouver	9,512	22,645	.....	.....	32,157
Total Interior Terminal Elevators	670,948	368,514	20,514	15,982	1,075,958
Depot Harbor	142,054	.....	.....	.....	142,054
Midland—					
Aberdeen Elevator Co.	469,573	61,865	.....	.....	531,438
Midland Elevator Co.	.....	.....	.....	.....	.....
Tiffin, G.T.P.	1,089,150	745,426	63,445	.....	1,898,021
Port McNicoll	101,558	1,590,994	5,245	.....	1,704,797
Collingwood	.....	43,005	.....	.....	43,005
Goderich	240,763	385,799	23,721	.....	649,833
Western Canada Flour Mills Co.	117,307	.....	.....	.....	117,307
Kingston—					
Montreal Transportation Co.	164,860	124,823	.....	.....	289,503
Commercial Elevator Co.	23,150	90,272	507	.....	113,929
Port Colborne	385,038	870,007	.....	.....	1,255,045
Prescott	.....	.....	.....	.....	.....
Montreal—					
Harbor Commissioners, No. 1	391,117	1,425,331	180,308	.....	1,996,756
Harbor Commissioners, No. 2	404,435	646,814	74,464	.....	1,125,713
Montreal Warehousing Co.	81,100	924,010	102,929	.....	1,108,039
Quebec Harbor Commissioners	3,851	85,664	.....	*8,782	98,297
West St. John, N.B.	131,166	5,795	6,252	.....	143,213
Halifax, N.S.	166,558	.....	.....	.....	166,558
Total Public Elevators	3,918,500	6,999,805	456,421	*8782	11,383,508
Total quantity in store	12,22,853	11,680,571	805,148	907,633	25,616,205

*Corn.

The Toronto, Hamilton & Buffalo Railway and the Town of Dundas.

The consideration of the Toronto, Hamilton & Buffalo Ry.'s bill for the confirmation of an agreement with the Hamilton & Dundas St. Ry., has been referred to the House of Commons for consideration by the Minister of Justice. The agreement provides for the handling of freight from the T.H. & B.R. into Dundas by the H. & D.R. The original agreement was made 20 years ago, and was to run for 50 years, but as the general law of Ontario only sanctions agreements for 21 the Town of Dundas, and in the year following the signing of the original agreement was ratified by the Ontario Legislature. Under the terms of the agreement the T.H. & B.R. has been operating freight traffic over the H. & D.R. into Dundas, and now, at the close of the 21 year period, it is applying to the Dominion Parliament, to which it is subject, for the ratification of the 29 year period of the agreement. The Town of Dundas opposes the application, first on the ground that freight cars were left on the streets, and, secondly, after the company agreed to spend $15,000 on a new switching ground and freight lines, to the use of steam locomotives in such yard. The cost of two electric locomotives to handle the traffic would be $80,000, which would mean an interest charge of $4,800 a year, while the total earnings from the traffic are about $5,400 a year. The company could not see its way to adopt electric power, but offered to leave the matter with the Board of Railway Commissioners. This did not satisfy the representatives of Dundas, and the Railway Committee amended the bill by ratifying the agreement making the term of its operation five years, instead of the further period of 29 years asked. It was contended in the House of Commons on behalf of the company that the agreement must be ratified for the whole period or the ratification must be refused. The company had made up its mind, however, that if the Town of Dundas would not grant what it is thought to be entitled to it will withdraw the two clauses of the bill referring to the matter and leave the town to handle its freight as it sees fit. On behalf of the town it was contended that the railway company, having received the benefit of the agreement up to the present, ought not to use the threat of withdrawal on the expiration of the 21 years to compel the town to carry out what it was alleged was a bad bargain.

The Hamilton Radial Electric Ry. has been ordered to pay the County of Wentworth, Ont., $1,165.30, representing annual payments for the years 1915, 1916, and 1917 for a portion of the highway occupied by its track. The company contended that it was no longer compelled to make such payment, as the portion in question had been annexed by the city, and in any event, the company no longer claimed any franchise privilege over it.

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.

The Timiskaming & Northern Ontario Railwaymen's Patriotic Association, up to Apr. 30, had contributed $18,775.28 to the Red Cross Fund; $26,208.51 to the Canadian Patriotic Fund, and had donated $12,297.59 direct to enlisted employes.

The British Columbia Electric Ry. reports that approximately 21% of its employes have joined the military or naval forces, or have entered munition plants, and their places have been filled temporarily, until their return, or for the duration of the war. The various branches are represented as follows: Platform men 19%, shopmen 13%, electricians 20%. The last mentioned class includes substation men, who form the largest percentage of those enlisting.

Railway Building Records.—Following is an extract from a letter from one of the officers of No. 2 Battalion, Canadian railway troops, which is commanded by Lieut.-Col. F. F. Clarke, formerly a Canadian Northern Ry. engineer: "We hold the record for railway building in France. We had a very difficult piece to build, because it was in full view of the German lines in daylight for about 1½ miles across a valley. On Tuesday night at 6.30 it started to rain and got very foggy and we got to work, and by midnight on Wednesday we had built 12,069 feet of line and ran a train over it. When the air cleared on Thursday the Germans saw the railway track from their observation balloon and started to shell it, and after sending over about 200 shells they broke a rail, which was repaired in a few minutes. This line can only be used at night, without light or noise. We have built 22 miles of light railway and 15 miles of standard gauge, with 4 railway yards of about 3 miles of track in each. This makes about 49 miles of railway built and completed in 75 days."

Personal Notes.

Jas. Carruthers, President, Canada Steamship Lines, Montreal, has given three aeroplanes for war purposes.

J. L. B. Smith, Roadmaster, Toronto Civic Ry., St. Clair Ave. Division, has joined the Royal Flying Corps.

Lieut. A. S. Bertram, whose death from wounds was reported July 13, was a son of Henry Bertram, of John Bertram & Sons Co., Ltd., Dundas, Ont.

Capt. S. Stibbard, who was reported recently as missing, was, prior to the war, chief clerk to Division Superintendent of Telegraphs, Grand Trunk Pacific Ry., Winnipeg.

Capt. H. J. Hall, who has died of wounds, was formerly on the staff of the Dominion Government Railway to Hudson Bay, and prior to the war held a commission in the 79th Cameron Highlanders of Winnipeg.

Lieut. F. Clarke, who has been engaged with Grant Smith & Co., railway contractors, etc., Vancouver, B.C., for some time, is reported to be organizing a railway construction draft for overseas service.

E. W. Beatty, K.C., Vice President and General Counsel, C.P.R., is said to have headed a syndicate of Montreal and Toronto men, who subscribed $10,000 to send a platoon of the 48th Highlanders, Toronto, to the United States for recruiting purposes.

F. P. Gutelius, Jr., son of F. P. Gutelius, ex General Manager, Canadian Government Railways, was graduated from Lafayette College, Easton, Pa., recently, with his degree in civil engineering, in absentia, he being on active service with a Canadian battalion.

A. A. Wright, formerly Managing Director, St. Lawrence & Chicago Steam Navigation Co., Toronto, has been spending most of his time in Montreal for some months past, in connection with the building of steam trawlers and drifters for the Naval Service Department.

Lieutenant R. S. Richardson
Formerly Superintendent Canadian Government Railways, Fort William, Ont., now of No. 13 Light Railway Company, R.E., British Expeditionary Force

Lt. Col. F. M. McRobie, General Manager, Canadian Transfer Co., Montreal, who went overseas in March in command of the 244th, Kitcheners Own, Overseas Battalion, C.E.F., **Lt. Col. J. M. MacDonell** and **Capt. W. L. Lanigan,** of the Railway Troops, were among some 800 C.E.F. officers and men who arrived at Halifax, N.S., July 21, from England.

Capt. John MacLeod, Prince Albert, Sask., who joined the Inland Water Transport Section, Royal Engineers, recently, has been operating on various rivers in the west for the past 20 years, and is stated to be the first man to run a steamboat on the Peace River, having navigated the s.s. Peace River there, 17 years ago.

E. Camp, younger son of W. J. Camp, Assistant Manager, C.P.R. Telegraphs, Montreal, has joined the Royal Flying Corps, and is at Toronto for training. F. E. Camp, the older son, and formerly Inspector, C.P.R. Telegraphs, Brandon, Man., who has been in overseas service for more than a year, has been transferred to Bramshott Camp, Eng., as chief signal officer.

Frank Jones, of F. & W. Jones, grain, vessel and marine insurance brokers, Fort William, Ont., left there recently to take a commission in the Canadian Navy for the duration of the war, and is now training at Halifax, N.S. This is the second member of the firm to enlist. Edward Jones, who went overseas in Aug., 1916, is now a lieutenant in charge of a patrol boat in the Mediterranean.

Flight Sub-Lieutenant Hugh Allan, who died in France, July 6, was the only son of Sir Montagu Allan, formerly of the Allan Line Steamship Co. No details have been received. He had qualified recently in the Royal Flying Corps, and had been in France a short time. While in Montreal, the late Lieut. Allan held a commission in the 5th Royal Highlanders of Canada, of which his father was honorary colonel. Sir Montagu is at present associated with the Canadian Pensions Board in London, Lady Allan is actively engaged in war work, and Miss Allan is acting as a voluntary nurse in France. Lady Allan and two daughters were passengers on the s.s. Lusitania when she was sunk by the Germans, the two daughters being drowned, while Lady Allan was severely injured.

John Stoughton Dennis, Chief Commissioner of Colonization and Development, C.P.R., Montreal, has been loaned to General White, commanding the British-Canadian recruiting mission in the United States, to assist in obtaining British and Canadian recruits for the army and has been given charge of recruiting operations in the northwest portion of the United States, with headquarters at Chicago, whence he will carry on an active campaign to give all British and Canadian citizens of military age resident in the Western States an opportunity of joining the army. He was born at Toronto in 1856, the son of the late Lt. Col. J. S. Dennis, who was the first Surveyor-General of Canada, and subsequently the first Deputy Minister of the Interior. He was educated at the Toronto and Kingston Grammar Schools, and Upper Canada College, Toronto, and graduated from the old military school at Kingston, Ont., before the establishment of the Royal Military College there. He served articles as a Dominion land surveyor with the late Lindsay Russell, Assistant Surveyor General, and was appointed Dominion topographical surveyor in 1877. From 1872 to 1879, he was engaged on survey work for the Dominion Government in Manitoba and the North West Territories, and from 1879 to 1882, was engineer and surveyor for the Hudson's Bay Co., and laid out what is now a portion of the southern part of the city of Winnipeg, constructing the first trunk sewer there. In 1882 he became a member of Vaughan, Dennis and Co., consulting engineers, land agents, etc., Winnipeg, and in 1885 entered Dominion Government service as Inspector of Surveys, becoming Chief Inspector in 1892. In 1896 he entered the Northwest Territories Government service and in 1899 was appointed Deputy Minister of Public Works, Northwest Territories. He en-

tered C.P.R. service in 1902, as Superintendent of Irrigation and Chief Engineer of Irrigation Works, then being carried out in Alberta. He was subsequently appointed Land Commissioner for British Columbia, and in 1904, Assistant to the Second Vice President. In 1910 he was appointed Manager of Irrigation, and Assistant to the President, C.P.R., at Calgary, Alta., and was removed to Montreal, Nov. 1, 1916. After graduating from the military school, he served for a short time as lieutenant of the Governor General Foot Guards at Ottawa, and in 1885, commanded, as captain, the Intelligence Scout Corps attached to General Middleton's column, during the Riel rebellion, being mentioned in dispatches for service at the battle of Batoche. He was later transferred to the reserve of officers with the brevet rank of major, and in 1916 was appointed lieutenant colonel commanding the Calgary battalion of the reserve militia. He joined the Canadian Society of Civil Engineers as a member, Nov. 21, 1901, was a councillor for 1906 and 1911, was Vice President in 1907 and is President this year. He is a past President of the American Society of Irrigation Engineers.

Canadian Railway Troops' Work in France.

The Dominion Government received recently from general headquarters in France the following summary of the work of the Canadian railway troops for the month of April:

Broad gauge lines—	
Miles located	44.75
Miles graded	36.25
Miles grade repaired	43.55
Miles track laid	51.50
Miles ballasted	46.45
Miles surfaced	43.67
Average number of miles maintained	60.70
Average number, ordinary ranks, C.R.T., daily on construction	1,597
Average number, ordinary ranks, C.R.T., daily on maintenance	686
Casualties from shell fire: officers, nil; ordinary ranks	7
Average number of British unskilled labor attached	2,660

In most cases these lines were laid over the remains of old metre gauge lines, which tended to hinder rather than help the work. Owing to the destruction of the lines by the enemy, it was necessary to do a considerable amount of bridge work.

Narrow gauge lines—	
Miles located	57.58
Miles graded	64.98
Miles grade repaired	28.74
Miles track laid	72.89
Miles ballasted	57.84
Miles surfaced	49.63
Average number of miles maintained	100.06
Average number, ordinary ranks, C.R.T., daily on construction	2,504
Average number, ordinary ranks, C.R.T., daily on maintenance	1,258
Casualties from shell fire: officers, 3; ordinary ranks	75
Average number of British labor attached	3,276

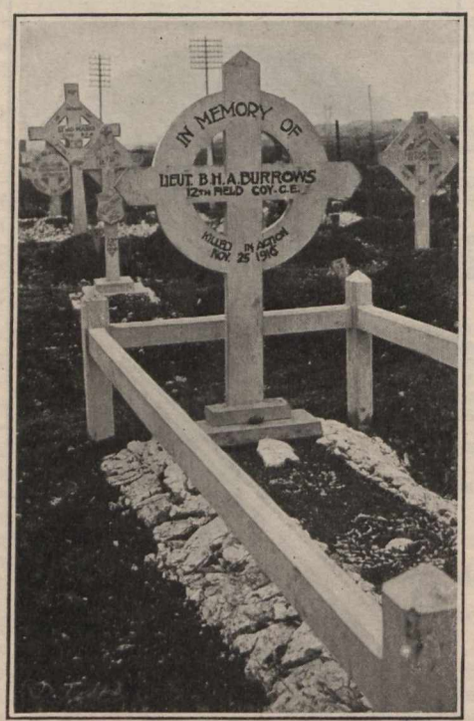
A Canadian Engineer's Grave in France.

The accompanying illustration shows the grave of the late Lieut. Bruce H. A. Burrows, B.Sc., of Toronto, in Baupaume Post Military Cemetery, about a mile north-east of Albert, France. Following are extracts from letters of other lieutenants of the same company of Canadian Engineers, referring to the funeral, grave, etc.

From Lieut. J. Balfour Thom, Nov. 26, 1916: "The funeral was held today at 4 p.m., being attended by Major Irving, D.S.O., of Toronto, the C.R.E. of the division, Major Ward, the Adjutant, and all the officers of this company; the officers of the other two companies were unable to attend. The service was performed by Capt. J. J. MacCaskill, chaplain of the 73rd Battalion, and afterwards a wooden cross, painted white with black lettering, was erected."

From Lieut. J. Balfour Thom, Nov. 27, 1916: "To-day I had a wooden railing, painted white, placed around the grave and the grave itself outlined with chalk. Much to my surprise, when I went over to see the grave this afternoon I found that one of the men of his section had made a small design in chalk of the engineers' badge at the head of the grave and that a number of maple leaves had been placed on the grave by various members of the company."

From Lieut. C. Ivey, Dec. 4, 1916: "We laid him to rest in a little British cemetery about a mile from Albert, on the south side of the Albert-Bapaume road. The whole company turned out, together with our headquarters staff, and after the service and he was laid to rest they filed by and saluted him."



A Canadian Engineer's Grave in Bapaume Post Military Cemetery, Albert, France.

Hon. Capt. the Rev. J. J. McCaskill, mentioned above, was reported early in July as wounded. He was educated in the United States and had a pastorate there, subsequently becoming pastor of Douglas Ave. Presbyterian Church, St. John, N.B. He spent some time in Montreal, while the 73rd Battalion was recruiting, and went to the front as its chaplain.

G.T.R. Apprentices.—The G.T.R. is said to have reduced the apprenticeship period for boys in its locomotive shops from 5 to 4 years, to have raised the pay from $10, $12, $14, $17 and $20 a month for the respective years to $12, $14, $17 and $20 a month. Boys who are entering upon the 5th year of their apprenticeship will be freed; and the boys who heretofore have been acting as assistants to men working on the percentage system and receiving a proportion of pay, will hereafter receive the full schedule of pay.

A railwayman has been made First Lord of the Admiralty. This is not surprising. The railway business everywhere is associated with brains and capacity.—Toronto Globe.

Canadian Northern Railway Earnings, Etc.

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

	Gross Earnings	Expenses	Net Earnings	Increase
July	$3,834,200	$2,636,800	$1,197,400	$ 711,000
Aug.	3,684,900	2,612,900	1,072,000	614,300
Sept.	3,187,900	2,455,300	732,600	x177,300
Oct.	3,716,800	2,496,500	1,220,300	x36,700
Nov.	3,722,300	2,472,300	1,250,000	38,600
Dec.	3,485,400	2,661,600	823,800	x378,300
Jan.	2,832,600	2,350,500	482,100	226,700
Feb.	2,358,600	2,250,400	108,200	x21,200
Mar.	3,273,200	2,655,100	618,100	57200,0
Apr.	3,315,500	2,557,600	757,900	208,000
May.	3,784,700	2,730,300	1,054,400	377,290
	$37,196,100	$27,879,29g	$9,316809	$1,764,000
Incr	$7,148,300	$5,384, 300	$1,764,000	.....

x Decrease.

Approximate earnings for June, $4,048,600, against $3,377,200 for June, 1916, and for three weeks ended July 21, $2,710,000 against $2,626,900 for same period 1916.

Canadian Pacific Railway Earnings, Etc.

Gross earnings, working expenses, net earnings, increases, compared with those of 1915-16, from July 1, 1916:

	Gross Earnings	Expenses	Net Earnings	Increase
Jan.	10,158,307.86	7,726,829.36	2,431,478.50	341,070.27
Feb.	9,084'276.76	7,098,227.96	1,986,048.80	x308,293.94
Mar.	11,846,542.98	7,909,225.16	3,937,317.82	516,987.46
Apr.	12,355,519,60	8,180,541,98	4,174,979,62	441,241,66
May.	14,355,149.63	9,803,426.84	4,551,719.79	179,436.88
	$57,799,796.83	$40,718,254.30	$17,081,542.53	$1,196,442.35
Inc.$	6,680,684.83	$ 5,511,242.36	$1,169,442.32	.....

x Decrease.

Approximate earnings for two weeks ended July 14, $5,968,000 against $5,354,000 for same period, 1916.

Grand Trunk Railway Earnings.

Aggregate traffic receipts from Jan 1 to June 30—

	1917	1916	Increase
G. T. R.	$23,969,070	$21,061,761	$2,907,309
G. T. W. R.	4,687,643	4,597,519	90,124
D.G.H. & M.R.	1,665,745	1,631,250	34,495
Totals .	$30,322,458	$27,290,530	$3,031,928

Approximate earnings for three weeks ended July 21, $4,759,338 against $4,031,339 for same period, 1916.

Grand Trunk Pacific Ry. Earnings.

The approximate earnings of the Prairie Section, 916 miles, from Jan. 1 to June 30, were $2,509,457 against $2,339,991 for same period 1916.

Board of Railway Commissioners Jurisdiction over Canadian Government Railways.—In Committee in the House of Commons on the Consolidated Railway Bill, July 14, the Minister of Railways said: "It is our intention to introduce an amendment to the Government Railways Act to put government railways under the control of the Board of Railway Commissioners. I expected that the bill would be drawn before this, but my law clerk has been ill. Under the Railway Act, the Government railways are not under the Board of Railway Commissioners' jurisdiction, and in the bill for the consolidation of the Railway Act, sec. 5, which deals with the question of the persons, companies and railways affected, provides that the act, when passed, shall apply to railways "other than government railways." The matter was allowed to stand as it was until the new bill referred to by the Minister is considered.

The Canadian Ticket Agents Association has, in consequence of the war, abandoned its idea of holding a three days meeting and outing in Montreal, on Sept. 25, 26 and 27, and will hold its annual meeting only, on Sept. 26, at the Windsor Hotel, Montreal, at 10 a.m.

Canadian Railway AND Marine World

ESTABLISHED 1896.

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NOTICE TO ADVERTISERS.

ADVERTISING RATES furnished on application.

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

TORONTO, CANADA, AUGUST, 1917.

PRINCIPAL CONTENTS.

Military Honors Etc., Given C.P.R. Officials and Employes.

Following is a partial list of C.P.R. officials and employes who enlisted for active service in Europe, to whom the King has awarded decorations and medals for bravery, gallantry and devotion to duty in the field:

Companion of Order of St. Michael and St. George—Lt.-Col. C. W. P. Ramsay, Engineer of Construction, Montreal.

Distinguished Service Order—Lt.-Col. G. S. Cantlie, General Superintendent of Car Service, Montreal; Lt.-Col. F. A. Gascoigne, Superintendent of Car Service, Montreal; Major J. A. Hesketh*, Assistant Engineer, Winnipeg.

Military Cross—Temp'y Lieut. C. F. Casey†, bridgeman, Brandon; Lieut. J. A. Hamilton†, conductor, Brandon; Lieut. E. Irvine, transitman, Schreiber; Reg. Sergt.-Major J. Jeffery, clerk, Montreal; Major W. M. Kirkpatrick, Assistant Freight Traffic Manager, Montreal; Lieut. W. B. McArthur†, clerk, London, Eng.; Lieut. W. H. McMurray, clerk, Lacombe East; Lieut. J. K. Matheson*, clerk, Calgary; Co. Sergt.-Major H. Neighbour*, storeman, Winnipeg; Lieut. A. M. Robertson*, transportation student, Montreal; Sergt.-Major D. Stuart*, constable, Calgary; Capt. L. B. Unwin, Accountant, Schreiber; Lt.-Col. F. A. Wilkin*, Surveyor, Winnipeg.

Distinguished Conduct Medal—Corp. A. P. Hancock. For conspicuous gallantry in action. He established his machine gun close to the front line and broke up enemy counter attacks. Later, with a small party, he advanced on an enemy machine gun which he had located, and captured the gun with great skill and determination. Freight checker, Winnipeg.

Pte. R. Jobling. For conspicuous gallantry in action. With an n.c.o. he jumped on the parapet and bombed the enemy back, accounting for many with his revolver, after his supply of bombs ran out, and saving the situation at a critical time. Bridgeman, Lethbridge.

Pte. R. H. Jones. For conspicuous gallantry in action. He carried seven messages to the front line under very heavy fire. Later he rescued many wounded men. He set a splendid example of courage and coolness. Yardman, McAdam Junction.

Sergt. J. R. Langford. For conspicuous gallantry. He displayed great bravery and coolness in the performance of his duties under heavy fire and most trying conditions. Fireman, Ottawa.

Corp. W. N. Legg*. For conspicuous gallantry. A machine gun in the enemy's position having caused heavy losses and held up an attack, he crept out in the night, under heavy fire, located the gun and enabled it to be silenced. His bravery and devotion were very marked. Fireman, Revelstoke.

Sergt. D. MacRae. For conspicuous gallantry when rescuing men buried by a shell. He was exposed to the view of the enemy and under continuous fire. Fitter, Calgary.

Co. Sergt.-Major H. Neighbour*. For conspicuous gallantry. He had invariably shown the greatest bravery, coolness and devotion to duty and has given a fine example to all with him, under the most trying conditions. Storeman, Winnipeg.

Second Corp. J. F. Norton. For conspicuous gallantry and devotion to duty as a telephone lineman. He set a fine example under heavy shell and rifle fire. Inspector, Swift Current.

Gunner S. Stickland*. For conspicuous gallantry as battery telephone lineman. During operations he was constantly under shell and rifle fire, patrolling and repairing battery lines, until he was finally wounded by shrapnel while on duty as a telephonist in a forward infantry trench. Machinist, Angus.

Pte. B. A. Stiles*. For conspicuous gallantry during an action. He assisted to carry wounded all day and night under heavy fire, and only gave up when thoroughly exhausted and having been slightly wounded. Fireman, B.C. District.

Military Medal — Pte. A. Anderson, locomotive man, Souris; Sergt. R. J. Cameron, fitter, Calgary; Pte. T. Campbell*, sectionman, Ibsen; Acting Corp. D. S. Charleson, inspector, Boston; Pte. T. C. Christie, trainman, Fort William; Corp. A. W. Courtney, wiper, Calgary; Gunner J. R. Coutts*, operator, Goderich; Gunner S. L. England*, clerk, Montreal; Sergt. W. Figsby*, fireman, Kenora; Sergt. W. Forsyth*, wiper, Brandon; Pte. H. Hamer, foreman, West Toronto; Gunner A. P. Hourd*, clerk, Winnipeg; Lance-Corp. C. M. C. Hoyt, inspector, Angus; Pte. D. Hutchinson*, wiper, Strathcona; Pte. M. S. Kennedy, assistant agent, Gimli; Co. Sergt.-Major R. Kennedy, clerk, Montreal; Staff Sergt. Wheeler C. Landry, carpenter, Farnham; Sapper E. A. McCready, operator, Winnipeg; Lance-Sergt. C. Moore†, heater, Angus; Corp. R. H. Morton, baggageman, Yorkton; Corp. R. G. Morrow, clerk, Liverpool, Eng.; Sergt. G. Nuttall, locomotive man, Calgary; Pte. R. G. Oke*, brakeman, Souris; Pte. W. G. Pavey*, watchman, Shuswap; Sergt. P. T. Roberts*, clerk, London, Eng.; Pte. W. L. Rutledge, brakeman, MacLeod; Pte. J. Savage*, wiper, Winnipeg; Corp. S. W. Shackell, transitman, Smiths Falls; Pte. E. Slattery*, cleaner, Glen Yard; Sergt.-Major D. Stuart*, constable, Calgary; Pte. J. M. Thrasher, fireman, Kenora; Acting Co. Sergt.-Major W. Westwood†, cook, Montreal; Pte. H. J. Williams†, helper, West Toronto; Sergt. R. F. Wilson*, yardman, Winnipeg; Lance-Corp. P. H. Witney*, wiper, Moose Jaw; Pte. J. Wright, fireman, Fort William; Second Corp. W. R. Wright, brakeman, B.C. District; Sergt. E. Young, specialist, Angus.

Meritorious Medal—Staff Sergt. C. A. Hewett, clerk, Winnipeg.

Marked thus (†) killed in action; (*) wounded.

The G.T.R. Directorate.—A bill introduced in the Senate by Senator E. Lynch Staunton, and which was specially aimed at the G.T.R., providing that no person shall be qualified to be, or shall be elected a director of a railway company in Canada unless he is actually a resident of Canada and remains so during the period of his directorate; that all meetings of directors shall be held in Canada, and that these provisions shall apply after Jan. 1, 1918, was withdrawn when it came up for a second reading, July 13, It was stated that the proposal would be brought up as an amendment to the Consolidated Railway Act when it comes up for consideration.

Transportation Appointments Throughout Canada.

Algoma Central & Hudson Bay Ry.—C. D. RAFFERTY has been appointed Master Mechanic, vice T. Fraser, resigned. Office, Sault Ste. Marie, Ont.

Atlantic, Quebec & Western Ry., Quebec Oriental Ry.—E. LINDSAY has been appointed Assistant Master Mechanic, New Carlisle, Que.

Canadian Government Railways.—F. B. TAPLEY, heretofore Assistant Engineer in Assistant Chief Engineer's Office, C.P.R., Montreal, has been appointed Assistant Engineer of Maintenance, all lines, C.G.R., reporting to the Chief Engineer. Office, Moncton, N.B.

J. J. McLEOD, heretofore first trick dispatcher, has been appointed Chief Dispatcher, New Glasgow, N.S., vice K. Stewart, whose appointment as Assistant Superintendent there was announced in our last issue.

J. DAVIDSON, heretofore Instructor of Interlocking Rules, Campbellton, N.B., has been appointed Chief Dispatcher there, and his former position has been abolished.

J. H. BRASSARD, heretofore Chief Dispatcher, Riviere du Loup, Que., has been appointed Chief Dispatcher, Levis, Que., and his previous position has been abolished.

J. H. DUFF, heretofore acting Assistant Superintendent, has been appointed Assistant Superintendent, District 2, Western Lines, and his previous position has been abolished. Office, Grant, Ont.

D. W. STEEPER, heretofore acting Assistant Superintendent, has been appointed Assistant Superintendent, District 3, Western Lines, and his previous position has been abolished. Office, Graham, Ont.

R. KING, heretofore acting Superintendent, has been appointed Superintendent, District 3, Western Lines, and his previous position has been abolished. Office, Fort William, Ont.

C. R. MACKENZIE, heretofore General Superintendent, Transcontinental Division, Cochrane, Ont., has been appointed General Manager's Assistant, Western Lines, Winnipeg.

H. K. GOODWIN has been appointed Local Treasurer, Western Lines, Winnipeg.

E. B. HAGARTY has been appointed Local Auditor, Western Lines, Winnipeg.

W. J. AMOR has been appointed Superintendent of Car Shops and Yards, Western Lines, vice J. L. Hodgson, General Car Foreman, deceased. Office, Transcona, Man.

W. D. STEWART has been appointed General Storekeeper, Western Lines. Office, Transcona, Man.

Canadian Northern Ry. — A. L. SPROULE, heretofore machinist, Winnipeg, has been appointed Locomotive Foreman, Neepawa, Man., vice W. Gibb, transferred.

N. J. LOWES has been appointed station ticket agent, Regina, Sask., vice R. J. Burland, enlisted for military service.

R. CROSBY, heretofore Car Inspector, Blue River, Sask., has been appointed Car Foreman, Moose Jaw, Sask.

W. GIBB, heretofore Locomotive Foreman, Neepawa, Man., has been appointed Locomotive Foreman, Radville, Sask., vice W. Bryce, transferred.

A. LYDON, heretofore Car Inspector, Prince Albert, Sask., has been appointed Car Foreman, Radville, Sask.

G. R. STEEVES, heretofore machinist, Saskatoon, Sask., has been appointed Locomotive Foreman, Hanna, Sask., vice A. T. Hannah, who has left the service.

W. BRYCE, heretofore Locomotive Foreman, Radville, Sask., has been appointed Locomotive Foreman, Kipling, Sask., vice H. Mann, resigned.

F. J. MYERS, heretofore chief clerk to General Superintendent, Central Division, Winnipeg, has been appointed Trainmaster, North Battleford, Sask.

J. E. GILES, heretofore machinist, has been appointed Locomotive Foreman, Lucerne, B.C., vice F. G. Flesher, transferred to Port Mann, B.C., and since resigned.

Canadian Pacific Ry.—C. W. STOKES, heretofore Assistant Publicity Agent, Department of Natural Resources, Calgary, Alta., has been appointed Assistant General Publicity Agent, Montreal.

A. E. GOUGH has been appointed Chief Dispatcher, Farnham, Que., vice O. M. Lavoie.

J. H. BARBER, heretofore Resident Engineer, Toronto Terminals, has been assigned to the Construction Department, and has charge of the double track construction between North Toronto and Leaside. Office, North Toronto.

H. R. H. SILCOX, heretofore transitman, Trenton Division, Toronto, has been appointed acting Resident Engineer, Toronto Terminals, vice J. H. Barber, transferred.

W. THOMAS has been appointed Car Foreman, White River, Ont., vice J. Flynn, who has been transferred to the Car Department, London, Ont.

C. GRIBBIN, heretofore Master Mechanic, Toronto, has been appointed Master Mechanic, Algoma District, vice T. Hambley, who has been acting temporarily. Office, North Bay, Ont.

T. HAMBLEY, who has been acting as Master Mechanic, Algoma District, North Bay, Ont., has been appointed Division Master Mechanic, Sudbury Division, Algoma District, vice W. Wells, transferred. Office, Sudbury, Ont.

W. WELLS, heretofore Division Master Mechanic, Sudbury Division, Algoma District, Sudbury, Ont., has been appointed Division Master Mechanic, Schreiber Division, Algoma District, vice F. Grant, transferred. Office, Schreiber, Ont.

J. W. KEPPEL, heretofore Locomotive Foreman, North Transcona, Man., has been appointed Locomotive Foreman, Kenora, Ont.

A. J. PENTLAND, heretofore Locomotive Foreman, Souris, Man., has been appointed Locomotive Foreman, North Transcona, Man., vice J. W. Keppel, transferred.

JOHN NORTON has been appointed Locomotive Foreman, Souris, Man., vice A. J. Pentland, transferred.

J. A. McGREGOR, Superintendent, Edmonto Division, Alberta District, Edmonton, is acting General Superintendent, Alberta District, during the absence of J. M. Cameron in Alaska. Office, Calgary.

W. H. WORTMAN has been appointed acting Superintendent of Shops, Ogden, Alta., during the absence of A. T. Shortt, due to ill health.

S. F. PIERCE, heretofore acting Manager, Royal Alexandra Hotel, Winnipeg, is reported to have been appointed Manager, Palliser Hotel, Calgary, Alta., vice E. H. Godwin, resigned.

J. W. JACKSON, heretofore Locomotive Foreman, Kamloops, B.C., has been appointed acting Division Master Mechanic, Cranbrook Division, British Columbia District, vice W. H. Wortman, transferred to Ogden Shops, Ogden, Alta. Office, Cranbrook, B.C.

W. SMALL, heretofore acting Shop Foreman, Revelstoke, B.C., has been appointed Locomotive Foreman, Kamloops, B.C., vice J. W. Jackson, promoted.

Chicago, St. Paul, Minneapolis & Omaha Ry.—EDWARD A. DYE has been appointed General Agent in charge of freight and passenger traffic in British Columbia, west of Field, including C.P.R. lines, Nakusp to Kaslo, and Gerard to Lardo, and the position of Travelling Agent, Vancouver, B.C., has been abolished. Office, 905 Dominion Building, Vancouver.

Delaware & Hudson Co.—W. J. MULLIN, General Traffic Manager, Albany, N.Y., is dealing with all matters hitherto handled by M. J. Powers, General Passenger Agent, who has been granted leave of absence for active military service with the U.S. Army.

H. T. RUHL, heretofore Division Engineer, Canadian Government Railways, Moncton, N.B., has been appointed Engineer, Maintenance of Way and Structures. Office, Albany, N.Y.

Grand Trunk Ry.—D. J. McCUAIG, heretofore acting Master Mechanic, has been appointed Master Mechanic, Ontario Lines. Office, Toronto.

W. C. TOMKINS has been appointed Local Treasurer for lines west of Detroit and St. Clair Rivers, vice G. W. Alexander, resigned. Office, Detroit, Mich.

F. A. RUTHERFORD, heretofore Trainmaster, District 26, Battle Creek, Mich., has been appointed Trainmaster, Districts 27 and 28, Detroit Division, vice N. P. North, assigned temporarily to other duties. Office, Durand, Mich.

Grand Trunk Pacific Ry. — T. P. WHITE, heretofore Car Service Agent, has been appointed Superintendent of Car Service, and his former position has been abolished. Office, Winnipeg.

Michigan Central Rd.—G. H. WEBB, Chief Engineer, having been commissioned as Lieutenant Colonel, Sixth Regiment Reserve Engineers, U.S., for service in France, J. F. DEIMLING, heretofore Assistant Chief Engineer, has been appointed acting Chief Engineer. Office, Detroit, Mich.

G. H. HARRIS has been appointed acting Assistant Chief Engineer, Detroit, Mich.

Quebec Ry., Light, Heat & Power Co.—See Electric Railway Department, pg. 327.

Union Pacific System.—J. J. ROSE, heretofore Canadian Passenger Agent, has been appointed General Agent. Office, 53 Yonge St., Toronto.

Bilingual Trainmen for Quebec Province.

In the debate on the bill to amend and consolidate the Railway Act, in the House of Commons, July 18, H. Boulay, Rimouski, Que., proposed an amendment to sec. 302, sub. sec. 2, to the effect that all employes coming in contact with the travelling public shall understand both official languages. The subsection as it now stands provides for printing timetables in English and French, for use on

railways within the limits of the Province of Quebec. It was urged that there was considerable difficulty on trains in Quebec where trainmen could speak English only, but the amendment was objected to on the ground that it would compel railways to employ men speaking both languages on every train, not only on those operating entirely within the province, but also on those passing through any portion, however small, of the province. The Minister of Railways stated that so far as the Intercolonial Ry. was concerned, he might accept the proposal for trains running in the Province of Quebec, but it was a different matter for other railways running trains out of Montreal, to Ottawa, Toronto, etc., and he could not accept it to apply to interprovincial or international trains.

Later in the day, on the motion of the Minister of Railways, the section was amended by the following addition: All railway employes on local passenger trains running in the Province of Quebec having to deal with the travelling public, shall be conversant with the English and French languages, from and after Jan. 1, 1919.

Freight and Passenger Traffic Notes.

The Board of Railway Commissioners has ordered the C.P.R. to stop train 172 at Oakville, Ont., to pick up passengers for Toronto, and has ordered the G.T.R. to stop train 106 at Oakville for passengers for Toronto and points beyond.

In last month's issue, in referring to the Toronto, Hamilton & Buffalo Ry. sleeping car service from Hamilton, Ont., to Pittsburg, Pa., the time of the train leaving Hamilton was given as 8.23 p.m., instead of 8.13 p.m.

The British Columbia Government has authorized the Canadian Northern Ry. to operate a workman's train between New Westminster and Port Mann daily, without paying the usual tolls for the use of the provincially owned bridge over the Fraser River.

The Canadian Northern Ry. reports that up to June 1, covering the first three-quarters of the present crop year, it had handled 58,477 cars of grain originating in Manitoba, Saskatchewan and Alberta. This, it is said, represents 30.4% of the total handlings of all railways in Canada, and is an increase of 1.6% over its own handlings for the same period of the 1915-16 crop year.

In connection with the removal of rails from portions of the Grand Trunk Pacific Ry. in the Rocky Mountain District, for shipment to France, the company says some of these rails will be replaced by steel taken from the adjacent Canadian Northern Ry. line, and in some cases the Grand Trunk Pacific Ry. trains will be operated over the C.N.R. grade. There will thus be a considerable length of railway which will be operated as a joint section. As the work proceeds there will doubtless be certain adjustments in the original plan, and consequently only this preliminary advice is given so that all concerned will understand that the operation of G.T.P. trains will continue over the joint section the same as under previous conditions. G.T.P.R. terminals at Jasper and Edson will still be used.

The Grand Trunk Pacific Ry. started operating a through service from Watrous to Prince Albert, Sask., June 24. A passenger train is run from Watrous on Tuesdays, Thursdays and Saturdays, and from Prince Albert on Mondays, Wednesdays and Fridays. A mixed train is run from Watrous on Mondays, Wednesdays and Fridays, and from Prince Albert on Tuesdays, Thursdays and Saturdays.

The Reid Newfoundland Co. has announced that it will endeavor, as far as possible, to forward all freight routed in its care at North Sydney via at that port, but it will reserve the right, whenever circumstances require it, to forward freight originally routed via North Sydney, via Louisburg, collecting extra charges over the North Sydney rate for additional haul North Sydney to Louisburg, and also the right to forward freight by steamship from North Sydney or Louisburg to St. John's direct or Newfoundland ports other than Port-aux-Basques.

Prevent Car Shortage by Filling Cars.

Canadian Railway & Marine World has already published bulletins 1 and 2, issued by the Eastern Lines management, C.P.R., and which appealed more especially to shippers. The officials who have been carrying on the campaign have visited most of the large shipping points in the country, but of course shippers are often unable to load cars fully, because they cannot ship the consignees more freight than is ordered. A third bulletin has, therefore, been prepared, addressed to consignees, and is being distributed from the company's general offices, through its local officers and through station agents. The company has also offered to supply shippers with as many copies as they wish for distribution amon copies as they wish for distribution among their customers. In this connection it may be mentioned that on the Eastern Lines, C.P.R., the cars are being loaded 8% heavier than last year. Bulletin 3 is as follows:

"NOTICE TO CONSIGNEES

"The railways solicit your co-operation in their endeavor to provide all their patrons with a satisfactory freight car supply. Consignees can help by ordering full carloads. Many consignees never order more than the minimum authorized under the tariffs and classification. The result is an economical waste which reduces the efficiency of the railways and the public suffers. To increase the average car loading by one ton, would be equivalent to placing 10,960 additional freight cars in service in Canada. To fully load cars would go a long way towards solving our transportation difficulties. We realize that some consignees cannot always order full carloads, but they are requested to help by ordering in as large units as possible. A car saved is a car gained. The difference between minimum loads and full loads of certain standard commodities is given herewith:

"Flour shipped in 214 lb. barrels; minimum load, 210 bbls.; 1 30 ton car will hold 300 bbls. A 40 ton car will hold 315 bbls. 98 sacks; minimum load, 459 sacks; 3 30 ton car will hold 673 sacks; a 40 ton car will hold 900 sacks.

"Sugar shipped in 100 lb. sacks; minimum load, 300 sacks; a 30 ton car will hold 660 sacks; a 40 ton car will hold 940 sacks.

"Cement shipped in 87½ lb. sacks; minimum load, 457 sacks; a 30 ton car will hold 754 sacks; a 40 ton car will hold 1,074 sacks.

"Nails shipped in 107 lb. kegs; minimum load, 280 kegs; a 30 ton car will hold 616 kegs; a 40 ton car will hold 878 kegs.

"Consignees can help by promptly releasing cars. To most consignees such an appeal is unnecessary—they do not delay cars under load. There are others, however, who appear to be satisfied if they release cars in what is known as "free time." Again, there are others who hold cars in storage service for weeks, and such consignees are largely responsible for car shortages and terminal congestion. A recent check of cars placed for unloading and held by consignees at some of the stations on one of the railways showed 700 cars delayed an average of 12 days. Had these cars been released within even 5 days they would have made nearly 1,400 trips, and would have handled about 35,000 tons of freight. 2,615 other cars unloaded within 3 days could have been placed for delivery on the tracks occupied by these 700 delayed cars to earn demurrage, but want them employed in carrying freight. A rolling car gathers no demurrage.

"If consignees will order freight from shippers so as to increase the average loading by 5 tons per car, and if they will reduce the average delay in unloading by 24 hours, it will prevent car shortages. In co-operation there is efficiency."

Railway Construction in Alberta in 1916.

The Alberta Railways Department annual report for 1916 shows that the provincial guarantee has been attached to bonds providing for the construction of 2,656.97 miles of railway, on which 1,706.78 miles of steel had been laid, and 417.85 miles of additional grading completed at Dec. 31, 1916. There were laid 132 miles of rails on provincially guaranteed lines during 1916, and the C.P.R. laid 11 miles in the province, making a total mileage of 143 miles of new track. The lines include the Lacombe & Blindman Valley Electric Ry., on which 37 out of 39.1 miles of grading have been completed, but upon which no track has been laid. The other lines belong to three systems, the Canadian Northern Ry., the Grand Trunk Pacific Ry., and the McArthur lines. Under the Canadian Northern charter 774.8 miles are guaranteed, of which 503.8 are completed; while under the Canadian Northern Western Ry. charter 662.57 miles are guaranteed and 264.67 miles are completed. These two lines have also 248.15 miles of grading completed and ready for track laying. Under the Grand Trunk Pacific Ry. charter 259.5 miles were guaranteed, and this was all completed in 1915. The three McArthur lines show: Of the 471 miles guaranteed on the Edmonton, Dunvegan & British Columbia Ry., 407 miles have been completed, and an additional 54.19 miles was ready for track laying Dec. 31, 1916; of the 350 miles guaranteed on the Alberta and Great Waterways Ry., 212.5 miles have been completed and 78.5 miles of grading were completed Dec. 31; of the 100 miles guaranteed on the Central Canada Ry., 49 miles of rails had been laid. Of the total mileage guaranteed 74% was either in operation or ready for track laying.

The total mileage of railways in the province at Dec. 31, 1916, was 4,566, distributed as follows: Canadian Pacific, 1,920 miles; Canadian Northern, 1,250; Grand Trunk Pacific, 707; McArthur lines 689.

Electric Railway Department

The Toronto Suburban Railway's Guelph Extension and Other Lines.

Previous to 1914 the Toronto Suburban Ry. had in operation in the City of Toronto and York Tp. 9.92 miles of single track, comprising three distinct lines and a short branch line. The three principal lines were respectively, from the corner of Keele and Dundas Sts., in West Toronto, along Dundas St. to Lambton Mills, from Keele and Dundas Sts. to Church St., Weston, and from Keele St., along St. Clair Ave. and Daveport Rd. to the subway under the C.P.R. on Bathurst St. The branch line leaves the Dundas St.-Lambton line at Gilmour Ave. and runs south to Evelyn Crescent. In 1912, contracts were let to the Suburban Construction Co. for the extension of the Weston line to Woodbridge, 7.9 miles, and from Lambton Mills to Guelph, 46.3 miles. Ewen Mackenzie was given subcontracts for all work, except buildings and overhead line, on the Weston-Woodbridge extension, and for the grading, bridging, fencing, etc., of about 41 miles of the Lambton-Guelph line, and the tracklaying and ballasting of all of this line, excepting the part lying east of the west bank of the Humber River, 0.6 mile. The grading and bridging of this 0.6 mile were done by the Lewis Construction Co., and the tracklaying and ballasting by the Suburban Construction Co. The grading on the westerly five miles was done by Chas. Cook & Co., and the tracklaying and ballasting, as above stated, by Ewen Mackenzie. At the same time that the work was going on, the Suburban Construction Co. did considerable work on the improvement of the city lines, particularly the Dundas St.-Lambton line.

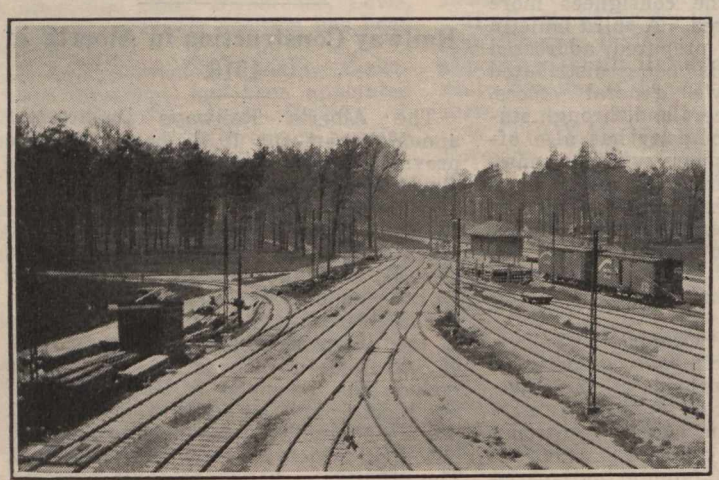
The Weston-Woodbridge line, commencing on Main St., Weston, at its intersection with Church St., runs northerly on Main St. half a mile to beyond the under crossing of the G.T.R.; thence for another half mile the track is on the road allowance, but on the west side next to the fence, so that it does not interfere with the roadway. The balance of the line is on private right of way. The line, where it is on the street or road allowance, has necessarily to conform to the roadway, grades and alignment. The maximum grade of this part is 3% and the sharpest curve is 20 degrees, which is rendered necessary at the turn in Main St., where it runs through the G.T.R. subway. Where the line is on private right of way, the sharpest curve, with two exceptions, is 10 degrees, and the steepest grade 2%. The exceptions are at the point where the line leaves the road allowance for a private right of way, where there is a 12 degree curve, and at a sharp bend in the Humber River, at mileage 7.1, where a 15 degree curve had to be used to avoid the necessity of diverting the river. For the first three miles the grade is undulating, following the valley of the Humber River until, after crossing the west branch of the river, it rises 80 ft. in a little over a mile to a summit nea rthe Albion Road. Thence the grade falls for another mile to the Humber River, which it follows to Woodbridge village.

Cuttings were made 20 ft. wide and embankments 14 ft. Culverts, where small openings were required, are of concrete or corrugated galvanized iron pipe. Larger culverts and cattle passes are of cedar box construction. The principal bridges are of steel, on concrete abutments and piers, as follows: Mileage 1.6, Humber River, 1-24 ft., 1-60 ft., 1-90 ft. deck plate girders. Mileage 2.7, West branch of Humber River, 2-45 ft. through plate girders. Mileage 3.1, creek, 24 ft. I beams. There is also one frame trestle on this line. All bridges are designed for Class 2 loading, Department of Railways & Canals specification.

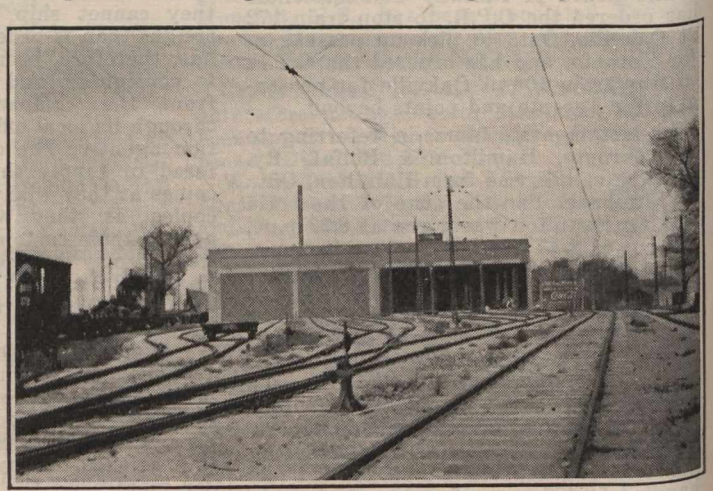
The track is laid with 60 lb. A.S.C.E. rail, rolled by the Algoma Steel Co., with 4 bolt angle bar splices, on ties spaced 17 to 33 ft, rail length. Surfacing was done with material from shoulders and side ditches. The right of way is 66 ft. wide, fenced throughout with no. 7 wire woven fence on posts spaced 25 ft. centres. Gates are of iron frame construction, covered with woven wire. There are two small shelter stations at Thistletown and Albion Road respectively, and one larger frame station at Woodbridge. Passing sidings are provided at the north end of Weston and at Thistletown and Albion Road, in addition to which there is a siding at Woodbridge. There is also a spur about three-quarters of a mile long, leading to a material yard on the C.P.R., a mile north of Weston, which is sometimes used as a passing siding.

The overhead line is of trolley construction, 2/0 copper trolley wire, on poles spaced 100 ft. apart, and 8 ft. clear of centre line. The feed wire is of aluminum, equivalent to 4/0 copper wire. There is one substation on this line, at Thistletown, built of brick with stone trimmings and tar and gravel roof.

The Guelph extension, generally known as the Lambton-Guelph line, leaves the Dundas St. line at the top of the hill on the east side of the Humber River, where it enters on private right of way and continues thereon throughout. After passing through Lambton Park, the Humber River is crossed at an elevation of 82 ft. above the water level; thence paralleling the C.P.R. for 0.8 mile to near Mimico Creek, the line curves sharply to the left, and reversing, crosses Mimico Creek and runs under the C.P.R. at the latter's bridge over Mimico Creek. The line then rises on a short stretch of 2% grade to and through Islington village, after which it parallels Dundas St. for 4 miles, excepting for a mile at Summerville, where it swings to the north, in order to get an easier grade down to the Etobicoke River valley, and, swinging back, a crossing under Dundas St. is obtained. Leaving Dundas St. at mileage 6, the line then runs for three-quarters of a mile through level fields and then parallels the C.P.R. for about a mile and a half to beyond Cooksville. There it strikes northwesterly on a rising grade and 4½ miles further on passes over a summit 200 ft. higher than Cooksville and thence descends to the valley of the Credit River, which is crossed at Meadowvale, mileage 15.3. The C.P.R. is crossed underneath, at mileage 15.9. The Credit valley is then followed through Churchville and Huttonville villages, at which latter point the line again rises out of the valley until it reaches the meadow land on the higher ground, which it follows, passing Norval village on the top of the hill at mileage 22.4. The west branch of the Credit River is crossed, at mileage 23.4, on a timber trestle, 70 ft. high, west of which there is located the longest tangent on the line, which extends to Georgetown, mileage 26.0. The West Credit River is again crossed at that point, on a



Toronto Suburban Railway, Lambton yard, showing the switches and Y.



Toronto Suburban Railway, Lambton yard and car barn.

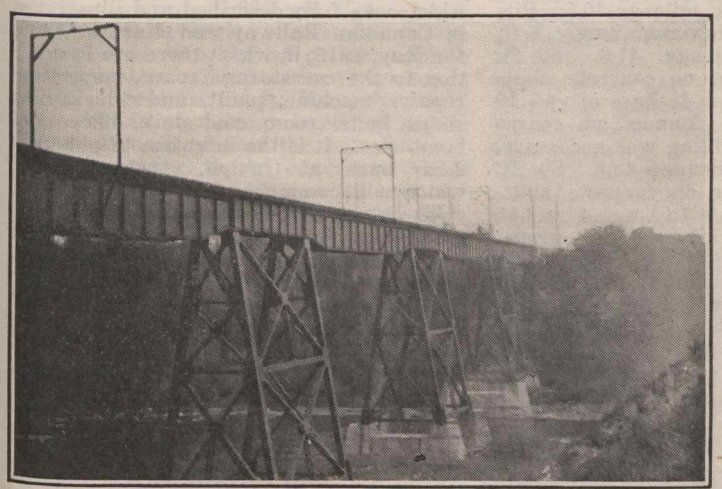
timber trestle, and Water St. is crossed overhead on a steel span. The only level highway crossing in Georgetown is Main St., on which the station is located. West of Georgetown the lines rises along the slopes of the Credit River valley, and at mileage 26.7 crosses under the G.T.R.'s Hamilton and North Western Branch. Thence the line rises almost continuously, passing through the limestone quarries at Limehouse and Dolly Varden to a summit immediately west of the latter point and reaches Acton at mileage 32.7. At that point the line runs through the Beardmore tanneries yards and crosses a G.T.R. spur in the yard at grade. The station is on Main St. West of Acton, the line passes through a somewhat swampy country and reaches its highest summit one mile west, where the track elevation is 755 ft. higher than at Lambton Jct. It then descends into the country tributary to Speed River's Eramosa branch, following Blue Springs Creek to the junction of the latter with the Speed, and then for the most westerly five miles close to the Speed itself. The grade on the last 12 miles is generally slightly undulating, with a total drop of 130 ft. between the summit, west of Acton ,and Guelph. This western part of the line is generally through a limestone country and although there are good farms but a short distance away, the land immediately adjoining the railway is generally barren or covered with scrub brush.

The construction standards of this line are similar to those of the Weston-Woodbridge line, but the location is to a higher standard, there being very much less curvature and it was altogether a more expensive line to build. The principal bridges, which, with the exception of the Humber River bridge, were designed for class 2 loading of the Department of Railways & Canals specifications, are generally of steel and concrete, with a number of frame and pile trestle bridge at the less important streams. The principal bridges are as follows:

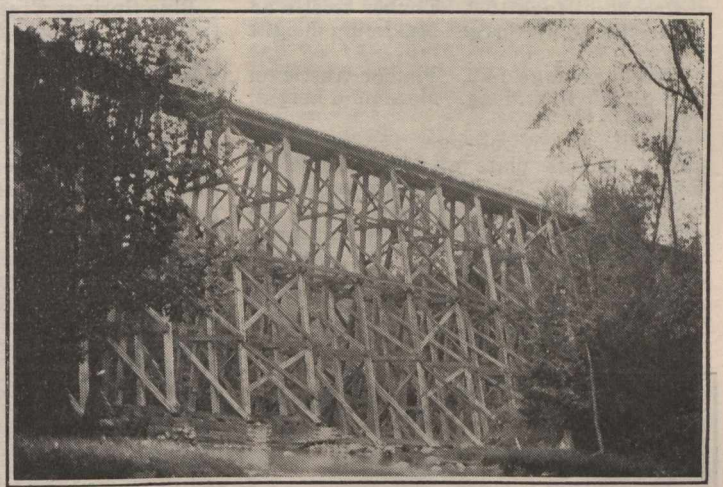
Humber River bridge, mileage 0.6. Total length, 711 ft.; maximum height above bed of stream, 86 ft. Commencing at the east end there is 209 ft. of frame trestle on mud sills, with a maximum height of 55 ft. This trestle ends on a high pier, which also supports the end of the first steel span. The balance of the bridge is of deck plate girder construction on steel trestle towers. The spans, commencing at the east end, are: 95 ft. 2 in., 40 ft. 4 in. tower; 95 ft. 4 in., 40 ft. 4 in. tower; 95 ft. 4 in., 40 ft. 4 in. tower; 85½ ft.

The easterly pier is of somewhat unique construction. It is 55 ft. from the ground to the bridge seat and the bridge seat is 14 ft. x 7½ ft. in plan. End batters are 1 in 24 and side batters 1 in 18. In order to lessen the concrete quantities, an opening 30 ft. high and 5 ft. wide, was left in the pier from front to back, and commencing 7 ft. above the footing. As the slope of the embankment comes against the back of the pier, 35 ft. above the footing, a counterfort was built on each side of this opening. These counterforts are each 3 ft. wide, and commence at the face of the pier, 24 ft. above the footing. They are battered out 1 in 4, giving them a thickness or projection beyond the neat work of 4 ft. 8 in. at the top of footing. The land tower is supported on 4 pedestals of ordinary construction 6 ft. square on top, with side batters of 1 in 6. The river towers each rest on two piers, which are carried full size, 39½ ft. x 6 ft., to above high water, from whence they are carried up an additional 4 ft. in the form of pedestals at each end of the pier. There is a 90 degree cut water on each end of each pier. The west abutment is on the slope of the hill, immediately west of the river, and is of ordinary wing construction. All piers and pedestals are founded on solid rock. The west abutment is on stiff clay foundation, in which no piling was necessary. The steel work of this bridge was designed for class heavy loading of the Department of Railways and Canals specification.

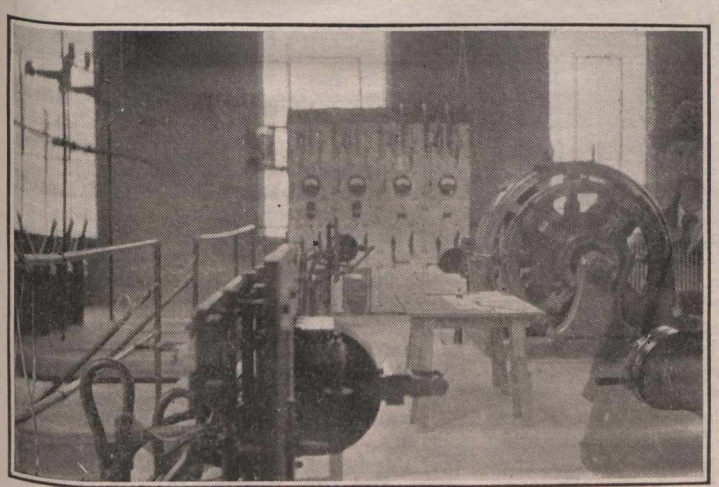
Mimico Creek bridge, mileage 1.8, 80 ft. through plate girder, on concrete piers and abutments, 14 ft. from bed of stream to base of rail. This bridge is in a bad location, owing to the angle at which it crosses the stream, and to the sharp curvature of the track. In order to ease the flow of the stream, the river was widened on the east side, and protected with a sheet pile bulk head for 180 ft. up stream from the bridge. A short bulk head was also built on the down stream side of the east abutment and the banks on both sides were further protected with heavy rip rap. Both abutments are founded on gravel, in which no piling was necessary.



Toronto Suburban Railway, Humber River Bridge.



Toronto Suburban Railway, typical trestle construction, west fork of Credit River.



Toronto Suburban Railway, Georgetown substation, interior.

Toronto Suburban Railway, standard shelter.

Etobicoke River bridge, mileage 5.0. Two 50 ft. through plate girders on 2 concrete abutments and 1 pier. Bed of stream to base of rail 12 ft. Both abutments and pier are on solid rock foundation.

Dundas St. overhead bridge, mileage 5.4. Reinforced concrete construction. Two abutments supporting slab on which the road is carried. Clear span 16 ft., at right angles to centre line of railway. Bridge on 47 degrees skew. Clear height, top of rail to trolley wire, 16 ft.

Dixie Creek, mileage 6.1. Timber trestle on mud sills 165 ft. long. Maximum height 23 ft.

Creek, mileage 10.3. Timber trestle on mud sills 35 ft. long. Maximum height 7 ft.

Creek, mileage 14.2. Timber trestle on crib piers. 90 ft. long. Maximum height, 20 ft.

Credit River, mileage 15. 3. Three spans through plate girders, one 40 ft. and two 80 ft. The 40 ft. span is over an old tail race, and is supported on 2 concrete abutments. The two 80 ft. spans are over the main river and are supported on 2 concrete abutments and 1 pier. Bed of stream to base of rail 12 ft.

C.P.R. crossing, mileage 15.8. The C.P.R. is crossed underneath, and an I beam bridge, on concrete abutments, was built to carry the C.P.R. track. The width at right angles to the Toronto Suburban Ry. track is 16 ft. in the clear, and the clear height 15 ft.

West Credit river, mileage 23.3. Timber trestle, partly on mud sills, and where in the stream on crib work piers; 315 ft. long, with a maximum height of 64 ft.

West Credit River, mileage 25.8. 410 ft. timber trestle on piles. Maximum height above bed of stream 32 ft. This trestle is extended on the west, with a 3 span I beam bridge on 2 abutments and 2 pairs of pedestals, to carry the railway over Water St., Georgetown. This bridge consists of 2-16 and 1-24 ft. spans, giving a clearance above the roadway of 14½ ft.

G.T.R., mileage 26.7. The G.T.R. Hamilton & Northwestern branch is crossed underneath and a bridge of I beams, on concrete piers, with a clear span at right angles to the Toronto Suburban Ry. of 16 ft., was built to carry the G.T.R. track. Clearance from rail to trolley wire under the bridge 16 ft.

West fork of west branch of Credit River, mileage 28.1. Timber trestle 270 ft. long, on mud sills, and where in the river on timber cribs. Maximum height, 45 ft.

Limehouse Creek, mileage 29.3. Pile trestle 180 ft. long. Height above bed of creek 8 ft.

Mileage 30.8. Frame trestle, 180 ft. long, on mud sills, over Toronto Lime Co.'s at Dolly Varden Mine. Total height, 13 ft.

Creek, mileage 31.3. Pile trestle 60 ft. long. Maximum height, 17 ft.

Creek, mileage 32.8. Frame trestle on piles 75 ft. long. Maximum height 18 ft.

Fairy Lake, mileage 33.3. Pile trestle 180 ft. long. Maximum height, 14 ft.

Blue Springs Creek, mileage 35.4. Pile trestle 75 ft. long. Maximum height 8 ft.

Blue Springs Creek, mileage 40.3. Pile trestle 75 ft. long. Maximum height, 8 ft.

Speed River, mileage 41.3. 80 ft. through plate girder on concrete abutments. Bed of stream to base of rail 10 ft. Abutments are founded on coarse gravel, in which no piling was necessary.

Speed River, mileage 43.4. 80 ft. through plate girder on concrete abutments. Bed of stream to base of rail 10 ft. Abutments founded on coarse gravel and boulders.

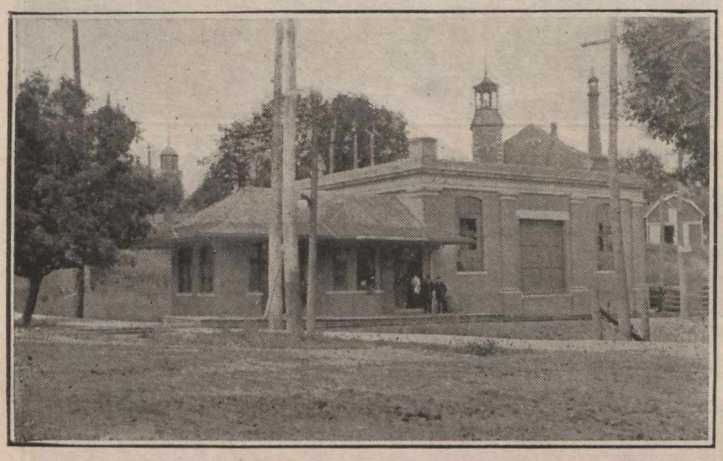
The track is laid with 60 lb. A.S.C.E. section rail rolled by the Algoma Steel Co. anl laid on jack pine and hemlock ties, 17 to the rail length. Generally, continuous joints were used, but there are a few miles also of ordinary 4 bolt angle bars. There is throughout 6 in. of good gravel ballast. Main line switches are laid with no. 7 frogs, with the exception of Lambton and Guelph Y tracks, in which no. 5 frogs were used. Yard switches and tails of Y have no. 5 frogs.

At Lambton there is a yard in connection with the car barn, and at the same point there is room for considerable additional trackage. Passing sidings are provided at Eaton farm, Summerville, Dixie, Cooksville, Huronbrow St., Streetsville, Meadowvale, Churchville, Huttonville, Norval, Georgetown, Dolly Varden, Acton, Blue Springs, Eden Mills and Eramosa. There are Y's at Lambton, Cooksville, Georgetown and Guelph. The Y's are all laid with curves of 100 ft. radius, with the exception of the east leg of the Georgetown Y, which is 130 ft. radius. Guard rails are used on all of these sharp curves. There is a yard at Guelph, with room to handle a considerable amount of freight.

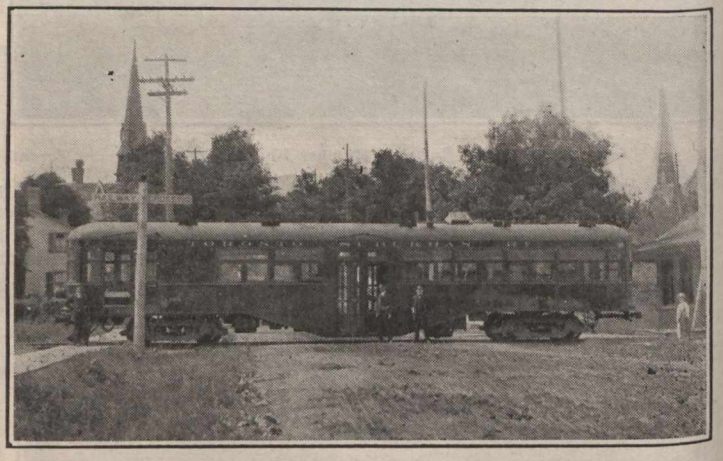
Shelter stations have been built at Islington, Eaton Farm, Summerville, Cooksville, Huronview St., Streetsville, Meadowvale, Churchville, Norval, Limehouse and Eden Mills, and platforms at Lambton, Dolly Varden, Blue Springs, and Eramosa. At Georgetown a brick station of neat design, with waiting room, office and baggage room, was built adjoining the substation. At Acton there is a 2 story frame station 18 x 24 in plan, with waiting room, office and baggage room downstairs, and living rooms upstairs. At Guelph, pending the construction of a better station, there is a platform adjoining the track, and across the street from this platform, a stone building is being used for station purposes. This building has a large waiting room, an office and an express room downstairs and 4 good sized living rooms upstairs.

There is a large car barn at Lambton, which was fully described and illustrated in Canadian Railway and Marine World for May, 1916, in which there are in addition to the car storage space, inspection, repair, machine, paint, and blacksmith shops, boiler room, coal store, offices and lavatories. It is the intention to put up a 2-car barn at Guelph, construction of which will commence immediately.

There are three sub-stations, at Islington, Georgetown and Guelph respectively. The Islington one is a frame building, covered with galvanized, corrugated iron; the Georgetown one is of brick, attached to the passenger station, and the Guelph one is also of brick. The high tension supply is from the Toronto Power Co., 12,000 volts, 3-phase, 25-cycle, although all the high tension wiring is installed to meet 35,000 volt standards, as the voltage of the supply will later on be raised to 25,000 volts. The Islington and Guelph substations each have one 500 kw. rotary installed, and the Georgetown substation has two of these rotaries. Each rotary converter receives its energy supply from 3 H.P. 25-165 kva.-12,500/25,000 volts to 965 volt oil-cooled, single-phase transformers. These transformers have four 2½% reduced capacity taps in the primary, and 50% starting taps in the secondary. The rotary converters are rated T.C.C. 4-500 k.w.-750 r.p.m.-1,500 volt, compound-wound commutating pole. The converters receive 3-phase energy, at 965 volts, from the transformers, and deliver 1,500 volt direct current to the trolley. The converters are equipped with brush raising mechanism for starting. Each substation is protected against lightning by an aluminum cell lightning arrester, and is provided with the standard arrangement of choke coils, disconnecting switches and oil switches on the high tension side. The switchboard panels are of natural black slate, the instruments having a dull black finish. The K-21-25,000 volt automatic oil switches are provided



Toronto Suburban Railway, Georgetown station and substation.



Toronto Suburban Railway, combination passenger and baggage car at Georgetown.

with series relays. The rotary starting panels are located near the rotary converters, and are separate from the main switchboard. In addition to the main lightning arresters, aluminum surge protectors are installed directly across the armatures of each of the rotaries. The operation of the substations is proving very satisfactory, the design of the rotary converters permitting very heavy momentary overloads without injurious sparking. The complete electrical equipment was built by Canadian General Electric Co., at its Peterborough works.

The contact system.—In general the side bracket type of catenary construction is employed; 25,000 volt high tension transmission is carried on the same poles; also the feed wire, the telephone and signalling system. The standard pole spacing on tangents is 150 ft. More than 30% of the main line mileage is curved track, and on account of this the pole spacing varies according to the curvature. The standard pole length for construction is 35 ft.; for transmission and catenary 40 ft. Local conditions, such as crossing of railways, telephone and telegraph and public highway, increase these lengths.

The details of the material used in supporting the contact system are along standard lines, some modifications having been made to meet local conditions. All pole line hardware is either galvanized or sherardized. The messenger cable consists of 7/16 in. high standard steel strand, 90,000 lb. per sq. in., supporting a 4/0 standard grooved trolley wire. Five-point catenary construction is used with 23 in. deflection. A 4/0 feed wire is run all along the line and tapped into the trolley every half mile. The contact system is anchored every half mile, on tangents, and against a curve at both ends. The line is sectionalized at all substations, and where the voltage changes from 1,500 to 600 volt. The high tension transmission consists of 3-phase, 25 cycle, 115,000 C/M copper cable and is supported on a buerrow bracket construction. All along the line is a 5/16 in. ground wire, protecting the line from lightning and grounded every half mile. Three types of bonds have been used, one brass welded, one gas welded and one electric welded bond. The track is cross bonded with a 4/0 copper cable every half mile; also cross bonded on the intersections and switches. The entire electrical installation was designed and constructed by the company's own engineering staff.

This line between Lambton and Guelph was opened for operation on April 14 of this year. The passenger cars were described in Canadian Railway & Marine World in March, 1916, and May, 1917.

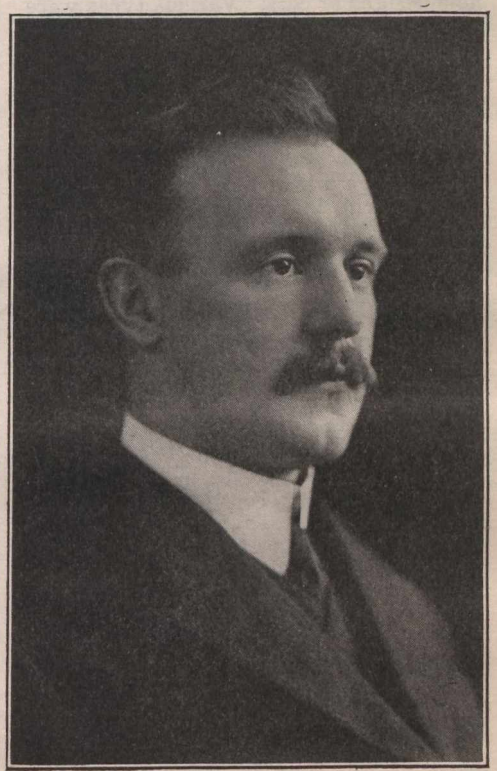
The present daily passenger service consists of 2 cars each way between Toronto and Guelph, 1 additional car between Toronto and Georgetown, and 5 additional cars each way between Toronto and Cooksville. The Sunday service consists of 2 cars each way between Toronto and Guelph, 2 cars each way between Toronto and Georgetown, and 1 each way between Toronto and Cooksville.

On the lines in Toronto last year, the track on Dundas St., from Keele St. to Gilmour Ave., and on Keele St. for 500 ft. north of Dundas St., making a total distance of 4,500 ft., was relaid with a 93 lb. grooved girder rail 7 in. high. This year the switches have been renewed with heavier steel, on Dundas St. at Gilmour Ave., near Mavety St., and on the Davenport line at the Y. At the junction with the Weston line at the corner of St. Clair Ave., and Keele St. This is preparatory to running the interurban cars into the city.

For the foregoing information, photographs, etc., we are indebted to H. T. Hazen, M.Can.Soc.C.E., Chief Engineer, and T. Malm, Electrical and Mechanical Engineer.

The Death of H. G. Matthews.

H. G. Matthews, General Manager, Quebec Ry., Light, Heat & Power Co., died at the Jeffrey Hale Hospital, Quebec, July 4, following an operation for intestinal tumor. He had been in poor health for some months and was unable to attend the Canadian Electric Railway Association's annual meeting in Montreal early in June, but he went to his office nearly every day until June 28. On June 29 he was taken to the hospital and was operated on on July 3, when it was found that gangrene had set in, affecting the main blood arteries of the intestines. He died the following morning. The removal of his body from his house to the station



The Late H. G. Matthews

at Quebec was attended by over 100 motormen and conductors in uniform, and representatives of many local clubs, societies and public bodies. The funeral took place at Mount Royal Cemetery, Montreal, July 6, and was attended by the President of the company, Sir Rodolphe Forget, several directors and other friends, including representatives of the Montreal Tramways Co. and the Montreal Light, Heat & Power Co.

Mr. Matthews was born at Montreal, July 1, 1878, and educated at the Montreal High School. After being with the Marconi Wireless Telegraph Co. of Canada from Dec. 1903 as Sec.-Treas., and from Oct. 1908 also as General Manager, he entered Quebec Ry., Light, Heat & Power Co.'s service in Aug., 1911, as Assistant to the President. In Jan., 1912, he was also appointed General Manager. He was also President, Lotbiniere & Megantic Ry. Co., and a director of all the subsidiary companies of the Q.R.L.H. & P.Co. He was a member of the Garrison Club, the Quebec Board of Trade, the Quebec Golf Club, a director of the Y.M.C.A., and also a member of the executive and legislation committees of the Canadian Electric Railway Association. He was unmarried, and is survived by his mother, one sister and one brother.

Reported Offer of Sale by British Columbia Electric Railway.

The Mayor of Vancouver stated recently that at one of the conferences during the British Columbia Electric Ry. employes' strike, G. Kidd, General Manager, said the company was willing to sell out its entire system on the mainland, and on Vancouver Island. The mayor's statement was that the company suggested that the B.C. Government purchase the company's hydro electric power plants on the mainland and on Vancouver Island, as well as the interurban lines, viz., the Saanich, Chilliwack, Lulu Island and Steveston lines, and the line between Vancouver and New Westminster, and that Victoria, Vancouver, North Vancouver and New Westminster take over the various local systems within their respective boundaries. The idea is that the cities would purchase power at a fixed rate from the government owned and government controlled plants. General Manager Kidd is reported as saying that the company would be willing to accept provincial bonds and city issues of debentures at a reasonable rate of interest in payment for the properties. The price reported to be set on the various properties is said to approximate $30,000,000. The proposition is reported to have been unofficially laid before the city councils of Vancouver, Victoria and New Westminster and to have been received with favor. No action will be taken by either body unless a definite proposition is made. Nothing has been said as to any offer having been made to the B.C. Government.

Mr. Kidd, in an interview, stated that such an offer had been made in general terms. The plan was one that would require special legislation to allow of the transfer of charter privileges and permit the three cities concerned to carry out the line of procedure outlined. But if all three cities signified their willingness to do their share in the plan, and passed recommendations to the provincial government to that effect, he thought the government would be sure to look upon the matter favorably and the necessary financing would be satisfactorily arranged.

Toronto Ry. Pape Ave. Extension Delayed.—At a hearing by the Ontario Railway and Municipal Board, July 13, as to why the Pape Ave. extension ordered by the board had not been carried out by June 1, both the company and the city declared that the reason the work was not completed was that it was impossible to get either T or girder rails. The rails were on order, but it was not expected that delivery could be obtained until the autumn. The board considered that everything possible had been done, and enlarged the order to Sept. 14.

Edmonton Municipal Ry. and other Public Utilities' Results. In publishing some information in this subject in our July issue, page 287, it was, owing to an error in typewriting, which was not discovered in proof reading, stated that "A. G. Davidson, City Commissioner," had supplied the matter. The City Commissioner is A. G. Harrison.

Toronto Railway Overcrowding Case Decided.

The Judicial Committee of the Imperial Privy Council has allowed the Toronto Ry.'s appeal against a conviction at Toronto assizes, Nov. 2, 1914, for criminal negligence in overcrowding cars and for not taking reasonable steps to avoid such nuisance. The action was originally taken against the company at the city's instance under the Public Health Act. This matter has been before various courts in Canada for at least 6 years, a conviction having been obtained for a similar offence in 1911. At intervals some feeble attempts have been made to remedy the overcrowding, which is admitted by the company, but in no case has the proper remedy been applied, or even attempted, and as, without doubt, the city has the remedy in its own hands, it may be given as an unprejudiced opinion that the city does not intend that the trouble should be obviated, but rather that it should be aggravated chiefly for the purpose of influencing public feeling during the expiring years of the company's franchise. Apart from this is the feeling among a certain class of people, and especially so when the final decision does not favor their views, that cases should not be taken to the Imperial Privy Council for decision, it being contended that it is impossible for the Judicial Committee to judge correctly, not being in touch with local opinion. There is no doubt that there is sufficient legal ability in Canada to enable all appeal cases to be decided on this side, but the main safeguard in appeals to the Privy Council is, in reality, the fact that cases are taken there for decision on legal points alone, where local opinion should have no effect whatever, and of which, of course, the Judicial Committee is entirely ignorant. The history of this case alone is sufficient to prove that local opinion and feeling on the matter of overcrowding had its effect in each court in which the case was brought. The contention for the defence, that the courts had no jurisdiction to deal with the matter under the Public Health Act, but that it was entirely within the province of the Ontario Railway and Municipal Board, being ignored. It was mentioned in one of the appeal hearings in the First Divisional Court, Torontot, Oct. 13, when it was held that the courts had jurisdiction, and that the contention of the company might hold good as between the company and private persons, but not between the Crown and the company. The decision seems absurd, when the complainant is the City of Toronto, which does not represent the Crown, and even though prosecution is under indictment by a grand jury, it is not, of necessity, a Crown prosecution. On the other hand, the Ontario Railway and Municipal Board, by virtue of its authority from the Ontario Government, does represent the Crown, and its powers to deal with the case have time and again been pointed out on the company's behalf.

Under clause 38 of the agreement between the city and the company, the City Engineer is required to decide as to the carrying capacity of the various cars operated by the company, and on May 4, 1895, the then City Engineer recommended to the City Council, who adopted the same, that the carrying capacity of closed cars be limited to 50% above their seating capacity, allowing a space of 18 in. on the seat for each person; that open cars be limited to their seating capacity, and that notices should be placed in the cars giving the number of passengers each was entitled to carry. No attempt seems to have been made to enforce the city's bylaw, but early in 1915 the company drafted a bylaw on precisely similar lines, and submitted it to the Ontario Railway and Municipal Board for approval. This was approved by the Board, on the understanding that it be redrafted, and that the company adopt a device to show when the cars were full, the bylaw not to be operative until a date to be fixed. The Vice Chairman of the Board, A. B. Ingram, dissented, and stated that in his opinion it was utterly impossible to carry out the bylaw, unless the company made alterations to its rolling stock. Immediately following the company's submission of its bylaw, the city council repealed its own bylaw worded similarly, and decided to oppose the application.

Other steps taken with the view of eliminating overcrowding, included some new designs of cars. Various types were tried, but as none of the types carried more passengers than those now in use, nothing was gained. Additional cars were suggested and ordered, but as additional trackage is blocked by the city, there is naturally a limit to the number of cars which can be added. There are at least three things which have interfered to a great extent in carrying out a proper method of dealing with the trouble: the war, the destruction of a number of cars by fire at the company's barns, and the fact that the franchise expires in March, 1921 and that the city has declared its intention of taking over the system.

The jurisdiction of the Ontario Railway and Municipal Board to deal with the complaints, is now unquestioned, but to remedy the evil it would require considerable expenditure, not only by the company, but also by the city, and the Board's Chairman stated recently that under existing circumstances it would be distinctly unfair to compel the company to expend large sums on new equipment, etc., There are several ways in which overcrowding evils may be lessened, if not removed, but as there appears up to the present, no disposition on the part of the city to have the matter handled properly, or to co-operate with the company, it is probable that the evil will continue.

The Privy Council's judgment is not to hand at the time of writing, but dispatches state that the company's appeal was allowed and the conviction quashed.

Suit against Sandwich, Windsor & Amherstburg Ry.—The Ontario Court of Appeals gave judgment at Toronto, July 4, in the action of the Windsor City Council against the S. W. & A. Ry. in reference to the Ferry Ave. loop. The city sued for damages for trespass on Ferry Ave. and injury thereto from excavations, for costs of filling such excavations, injunction and declaration that defendants have no rights upon said streets, without bylaw assented to by electors authorizing same. At the trial, April 27, 1916, judgment was given plaintiffs for $900 damages and costs, with declaration and injunction as asked. The Court of Appeals has upheld the judgment in all respects, except as to the $900 damages. Each party pays its own costs of the appeal.

Sudbury-Copper Cliff Suburban Electric Ry.—We are officially advised that the company has under construction at Sudbury, Ont., a car barn 50 x 115 ft., and a station building 20 x 30 ft.

Electric Railway Projects, Construction, Betterments, Etc.

British Columbia Electric Ry.—We are officially advised that in May last the Victoria City Council, on the company's application, authorized the laying down of 420 lin. ft. of second track, paralleling the existing single track on Esquimalt Road, between Catherine and Mary Sts. The linking up of this short stretch will make a complete run of double track from the city to Constance Ave., a little over three miles. The company's right of way over this portion of Esquimalt Road had long been in dispute, and was finally settled by an order of court. (July, pg. 286.)

International Transit Co.—We are officially advised that the company proposes to relay 1,720 ft. of track in Sault Ste. Marie, Ont., in advance of city permanent improvements.

Lake Erie & Northern Ry.—We are officially advised that the overhead construction necessary to operate the company's cars into the Grand Trunk Ry. station at Port Dover, Ont., has been completed, and that since July 9, the cars run over about half a mile of the G.T.R. tracks. This enables the company to have a connection with the wharf at Port Dover. Negotiations to secure this connection were started in March, and plans had been prepared, in the event of their not being successful, for the company to build its own line on St. Patrick St.

Ottawa Electric Ry.—We are officially advised that the company is about to relay track on Sussex St., from Rideau St. to St. Patrick St., Ottawa, 1,600 ft., with 80 lb. T rail. The city will renew the paving at the same time. Work is expected to be started at once.

Port Arthur Civic Ry.—Plans are reported as being prepared by the City Engineer, for the erection of two new bridges over the McIntyre River, Port Arthur, Ont., one for each track. They will, it is said, be of timber construction, as there is a remote possibility that the track may be diverted to May St. The existing bridges are not considered adequate and cars are operated over them at the rate of two miles an hour. It is not expected that any construction will be done on the bridges before September. (May, pg. 203.)

Sherbrooke Power & Ry. Co.—The City Council is applying to the Quebec Public Utilities Commission to consider and settle various matters which are in dispute between the council and the company. The city contends that the company is not living up to the terms of its franchise in regard to street paving and other matters. (May, 1916, pg. 194.)

Toronto Civic Ry.—Tenders were received July 19 for building a single track extension to the Bloor Division, from Quebec Ave. to Runnymede Road. The contractor is to provide all track and overhead work, ballasting, grading, alterations and additions to existing track, and to supply two single truck cars. Only one tender was received for the track, including secondhand T rails and second quality ties, for $7,655; or as an alternative, for $2,500, if the city supplies rails, bolts, spikes and the plates. The work is to be completed in 20 days from the start.

Montreal Tramway Co.'s Wages.—The M. T. Co.'s management voluntarily increased its conductors' and motormen's wages 2c an hour all round, from July 1.

British Columbia Electric Railway Employes' Strike.

We have been favored with the following statement in reference to the recent strike of the British Columbia Electric Ry. Co.'s carmen and the causes which led to it:

The employes were working under an agreement entered into by the Amalgamated Association of Street and Electric Railway Employes of America and the company on Sept. 16, 1916. This agreement was supplementary to an unexpired agreement between the same parties, which was executed on Sept. 1, 1915, providing for certain schedules of pay for the employes who were members of the association. In view of the increased cost of living the company voluntarily offered the men certain increases, which resulted in the supplementary agreement above mentioned, although the agreement of Sept. 1, 1915, was not due to expire until "six months after the cessation of the war, provided that the period for which the agreement shall continue shall not be less than 12 months nor more than 22 months from that date." In view of the revised agreement, the period of the contract was extended to June 30, 1918, or at the expiry of six months after the close of the war, whichever date came first. Under that agreement conductors and motormen received the following wages per hour: 1st year, 27c; 2nd year, 29c; 3rd year, 31c; 4th year, 33c; after 4th year, 35c. Conductors and motormen on interurban lines received 1½c an hour in addition to the above rates. In the early part of May, the men governed by the agreement mentioned above made a demand through their union for an additional increase in wages. As the men's demands were too much for the company to consider, a counter offer was made them of a war bonus as follows: 15% increase to men receiving up $60 a month; 10% to men receiving more than $60, and not more than $70 a month; 5% to men receiving more than $70, and not more than $80 a month. The men refused to accept this offer, but modified their original demand and asked for increases as follows: For trackmen, 27c an hour for the first 6 months, and after that 35c; a minimum wage of 35c an hour after 6 months service in all departments; all men on a monthly salary to receive an increase of $10 a month; conductors and motormen on city and suburban lines, car repairers, etc., 1st six months, 27c an hour; next 18 months, 35c; 3rd year, 36c; 4thyear, 38c; 5th year and after, 40c; conductors and motormen on interurban lines to receive 1½c an hour in addition.

The men voted to strike when the company refused to meet these demands, and as a consequence no cars were operated on June 13 in Vancouver, North Vancouver and New Westminster and on the interurban lines between Vancouver and New Westminster, known as the Central Park and Burnaby Lake line. The following day the men on the Victoria lines, and the Saanich interurban line, on Vancouver Island, ceased work. The service on the company's other interurban lines, the Lulu Island and Fraser Valley branch, continued to operate, as the trainmen working on these divisions are members of the Brotherhood of Railway Trainmen, and are not associated with the Amalgamated Association, but as the rolling stock on these lines was maintained by members of the Amalgamated Association, the company was forced to suspend operations on the Lulu Island line on June 17, and to reduce the service on the Fraser Valley branch from 3 car trains to single car operation. The equipment on these lines had been looked after since the beginning of the strike by the foremen, but the company was notified by the Electrical Workers Union that it considered this a breach of the arrangement whereby the company promised not to employ strike breakers, and in order to give the electrical workers no excuse for ceasing work and jeopardizing the light and power service of the district, it removed these foremen from maintenance work, and as a result of being unable to keep the rolling stock on these divisions in proper repair, the operation on the Lulu Island line ceased.

The company considered that the offer it had made of war bonuses was adequate for the increase in the cost of living, and moreover the company's revenue would not permit the payment of the increases demanded and the continuation of operation.

On the Vancouver and Victoria city systems a fare of 4 1/6c is charged, while in North Vancouver and New Westminster, which are separate systems, a straight 5c fare is charged. On the interurban lines liberal concessions in the form of books of tickets have been made by the company from time to time, and on many of the suburban lines on the city system of Vancouver similar reductions of fare have been granted. These arrangements and agreements were entered into several years ago, on the strength of the traffic carried on the shorter city lines. Since Dec., 1914, the revenue which the company expected to receive from these shorter rides has been seriously depleted by jitney competition. When the strike occurred, about 150 jitneys were operating on the paved car line streets in Vancouver. The jitneys limited their operations to the paved streets and car line streets, and also the short hauls, and did not give transfers, consequently a much larger proportion of the long non-paying hauls was imposed upon the company. The City of Vancouver has passed certain regulations respecting jitneys, but these had no effect upon the number operating.

After the street cars had ceased operation for several days, the Retail Merchants Association took action and passed a resolution recommending the elimination of the jitney as the first step towards obtaining a resumption of the car service. This resolution brought action by the city council, which invited the company's officials to a conference. The officials told the city councillors that it was not possible to pay the demands of the men while the jitneys were allowed to operate, but as the city wished to receive proof of this statement, it was agreed between the council and the company that the whole transportation situation be investigated by a commission to be appointed by the British Columbia Government. The city council agreed by resolution to put into effect whatever recommendations this commission should make. The company agreed to endeavor to resume operation immediately in the meantime. The company's officials therefore met the union's officials and after negotiations agreed to pay the men their demands, stating that they did so in the interests of the public, and also because they felt assured that the investigation by the commission would relieve the company of many of the onerous burdens under which it now operates, and the operation of the system was resumed provisionally, depending upon the rectification of the economic conditions by a provincial commission. The Provincial Premier invited Prof. Adam Shortt, head of the Dominion Civil Service Commission, to be chairman of the special commission, and Sir Robert Borden has agreed to allow Professor Shortt leave of absence to undertake the work.

Adam Shortt, who was appointed commissioner as above mentioned, arrived in Victoria, July 10, and had a conference with the Attorney General and other members of the government, representatives of the municipalities interested and B.C.E.R. officials as to the scope of the enquiry. The commissioner held his first sitting at Vancouver, July 13, when the B.C.E.R. was represented by G. Kidd, General Manager; W. G. Murrin, Assistant General Manager; V. Laursen, Solicitor, and W. Saville, Comptroller. The municipalities interested and the jitney league were also represented. After preliminaries had been settled the investigation was adjourned to July 16, when the taking of evidence was begun. The enquiry is expected to last some time.

Winnipeg Electric Railway Suburban Fares.

The Manitoba Public Utilities Commission has issued an order fixing fares from Winnipeg to Kildonan Park. For traffic between any point in Winnipeg and Templeton Ave. in Kildonan, which is the terminus for service to Kildonan Park, the rate shall be as follows: Single cash fares to be 5c each from any point in Winnipeg to Templeton Ave., or from Templeton Ave. or any point south to any point in Winnipeg, with a transfer if required. Provided that tickets shall be sold as follows: White tickets, good at all times, 6 for 25c. Red tickets, good going north, on Sundays and other days, within the hours specified for use of same, but only good going south on Sundays, 8 for 25c. Tickets for school children to be used only on school days, and for the purpose of attending school, 10 for 25c. Children under five years of age, when accompanied by parents or guardians to be carried free.

A Manitoba court, on July 12, granted the Winnipeg Electric Ry. and the Winnipeg, Selkirk & Lake Winnipeg Ry. authority to appeal against the decision above mentioned, but refused to grant a stay of proceedings as against the order. The effect of this is that the new fare schedule becomes operative at once, while the appeal against it cannot be argued until September.

Accident on the Niagara Gorge Ry.—Owing to heavy rains a portion of the track was undermined about 50 ft. south of the cantilever bridge above the whirlpool rapids, Niagara Falls, July 1, and a car with from 50 to 60 passengers was precipitated into the river. Some disagreement has occurred as to the number of passengers actually on the car, and missing, but it has been accepted that 10 were killed and 31 injured. It is feared that the bodies will not be recovered from the whirlpool, although at times some of them have been seen. One was recovered July 11. An enquiry has been held.

Mainly About Electric Railway People.

Mrs. H. W. Mills, widow of the former Manager of the Sarnia St. Ry., died in Sarnia, Ont., June 26.

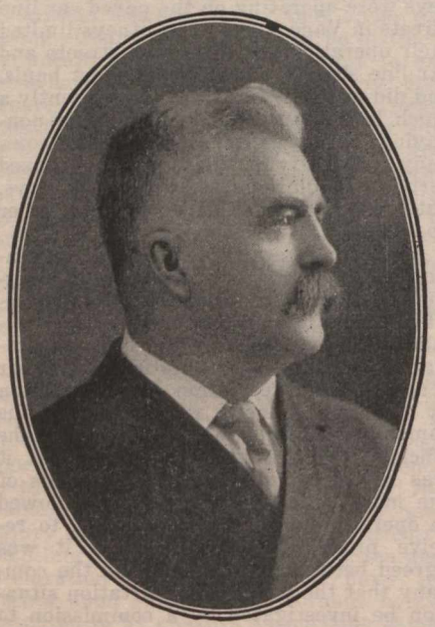
George Scott, who has been in the company's service in various capacities for several years, has been appointed Superintendent, Moncton Tramways, Electricity & Gas Co., Moncton, N.B., vice A. B. Coryell, resigned to go into the moving picture business in Buffalo, N.Y.

William J. Lynch, who has been appointed General Manager, Quebec Ry. Light, Heat and Power Co., Quebec, Que., was born there, June 17, 1882. He entered the Montmorency Electric Light Co.'s service as a clerk in 1897, and in 1900, when the company was amalgamated with the Quebec, Montmorency and Charlevoix Ry., he was appointed cashier, from 1905 to 1907 he was accountant; 1907 to 1909, Treasurer, and from 1909, when the various properties comprising the Quebec Ry. Light, Heat and Power Co. were consolidated, he has been Treasurer and Comptroller.

Albert Eastman, who has been elected Vice President Canadian Electric Railway Association, was born in Bosanquet Tp., Ontario, Aug. 21, 1870. He entered transportation service in 1889, and was to 1891, operator, Michigan Central Dd.; 1892 to 1900, freight and ticket clerk and operator, G.T.R., Detroit, Mich.; 1901, assistant agent, Michigan Central Rd., Detroit, Mich.; 1901 to Nov., 1902, Travelling Express and Passenger Agent, Detroit United Ry.; Dec. 1902 to May 1903, General Express Agent, Utica and Mohawk Valley Ry.; May to Nov. 1903, Division Superintendent, Detroit United Ry.; Nov. 1903 to Nov. 1907, Superintendent of Employment, Public Service Corporation of New Jersey; Nov. 1907 to May 1910, General Express and Passenger Agent, New York State Railways, Syracuse and Utica, N.Y.; May 1910 he was appointed General Manager, and in 1914, also Vice President, Windsor, Essex and Lake Shore Rapid Ry., Kingsville, Ont., which position he still holds.

Duncan McDonald, who has been selected to represent the Toronto Ry. on the board of conciliation appointed under the Industrial Disputes Investigation Act, to deal with the matters between the Toronto Ry. and its employes, was born at St. Thomas de Montmagny, Que., June 17, 1859, and removed to Montreal in 1875. He entered Montreal St. Ry. service in 1881, as a driver, in order to acquire a thorough knowledge of street railway work from its very commencement. He was soon changed to conductor and after about a year in that capacity, was appointed roadmaster. In 1886 he severed his connection with the company and engaged in other business. Anticipating the progress that the trolley system would make, he went to St. Paul and Minneapolis, Minn., in 1889, and secured a practical knowledge of electric railways. He returned to Montreal in 1892 and re-entered Montreal St. Ry, service as inspector, and in 1894 was appointed Superintendent of Transportation, which position he held until 1898, when he resigned to become General Manager, Parisian Tramways Co. Paris, France, in which position he organized the Parisian system to a high degree of efficiency. In 1903 he returned to Montreal, having been offered the position of Manager, Montreal St. Ry., which position he held to Nov. 1910, when he was appointed General Manager, and on the organization of the Montreal Tramways Co., in 1912, he was appointed General Manager of the new company, resigning in July, 1912, since when he has devoted his time to his other interests, including the Montreal Tunnel and Terminal Co., the Prepayment Car Sales Co., of which he was President, and which controls the pay as you enter car, of which he was one of the patentees, and also the pay within car. He is a directer of the Dominion Park Co., the Automobile Club of Canada, a member of the Civil Engineers Society of France, a member of the Institution of Electrical Engineers of England, and was connected with the Canadian Street Railway Association, now Canadian Electric Railway Association, from its inception until his retirement from actual street railway service, being President for two years and member of the executive committee for several years. For two years he was a city controller of Montreal, and was an unsuccessful candidate for the mayoralty at the last election.

A. Eastman,
Vice President and General Manager, Windsor, Essex, & Lake Shore Rapid Railway



Duncan McDonald

Earle L. Milliken, Manager, Cape Breton Electric Co., Sydney, N.S., who was elected a member of the Canadian Electric Railway Association's executive committee at its recent annual meeting, was born at Bideford Me., May 15, 1888, and was educated at Springfield Technical High School and the University of Maine, whence he graduated in 1908 with the degree of B.S. in electrical engineering. During the summers from 1903 to 1908, he engaged in various work, respectively as follows: General electric work, Westbrook Electric Light & Power Co., Westbrook, Me.; in the brass department, Coffin Valve Co., Mepouset, Me.; in tool making department, Chapman Valve Co., Indian Orchard, Mass.; rodman, Maintenance of Way, Bangor & Aroostook Rd.; in machine shop, Portland Co., Portland, Me., and on inventory work, South Massachusetts Telegraph and Telephone Co. From Sept. to Nov., 1908, he was engaged in Stone & Webster's statistics department, Boston, Mass., and entered the service of the Cape Breton Electric Co., which is managed by Stone & Webster, Nov., 1908, since when he has been, to Oct., 1909, clerk to Manager; Oct., 1909, to Feb., 1911, Superintendent of Distribution and Electrical Engineer; Feb., 1911, to May, 1912, Superintendent, Light and Power, and Electrical Engineer; and from May, 1912, Manager.

Increased Electric Railway Fares in Fort William and Port Arthur.

On Mar. 1 the City Corporation of Fort William and the Public Utilities Commission of Port Arthur, Ont., entered into an agreement as follows: "Whereas the city is operating an electric street railway within the limits of Fort William and the commission is operating an electric street railway within the limits of Port Arthur, subject to certain agreement for a through service of cars. And whereas the said railways are operating at a loss and it is necessary to increase the fares. Now therefore the parties hereto agree as follows: Notwithstanding anything to the contrary in any bylaw or agreement or order in council the fares to be hereafter charged on the said street railway shall be as follows:

"(1) One fare in each city. (2) Regular fare 5c or 6 tickets for 25c, good from 5.30 a.m. until 12 p.m.

"(3) Workmen's fares, 5c or 8 tickets for 25c, good from 5.30 a.m. to 8 a.m. and from 5.30 to 7 p.m., from Monday to Saturday inclusive. Sunday tickets, 8 for 25c, good from 5.30 a.m. to 12 p.m.

"(4) Children's tickets up to 14 years of age, 10 for 25c, good all hours eevry ray of the week, Sunday included. All bona fide students, above 14 years, privileged to use children's tickets, between 8 a.m. and 5 p.m. on school days.

"(5) Fares from 12 p.m. to 5.30 a.m. 10c each, good for a through ride.

"(6) Children under 14 years of age may use school children's tickets on Sunday, be good for through ride."

The Ontario Railway and Municipal

Board met at Port Arthur on June 19 to consider the agreement, and on July 6 recommended to the Ontario Government that the agreement be ratified.

Electric Railway Notes.

The Ottawa Electric Ry. has received one semi steel car, with 33 ft. body, from Ottawa Car Manufacturing Co.

The Toronto Ry. has instructed its motormen that returned disabled soldiers are to be allowed to enter cars by the front doors instead of by the back.

The Edmonton Radial Ry. received tenders recently for the supply of trolley wire, the price being $43.93 per 100 lb. against $16 before the war.

A. Beaudoin, Ottawa station agent, Hull Electric Co., was on July 7 sent for trial before a jury on a charge of converting to his own use $255.45 belonging to the company.

The Premier of British Columbia wrote the Victoria Board of Trade, July 6, that the government had decided to introduce into the legislature next session a bill providing for the establishment of a public utilities commission.

The Winnipeg Electric Ry. is reported to be considering the advisability of reducing the car service on a number of lines in the city and the advisability of operating some of its car in the outlying parts of the city as one-man cars.
complied with.

A United States federal court at Seattle, Wash., on July 12, gave judgment restraining any person from operating a jitney in Seattle without compliance with the city regulations as regards bond, etc. The jitney men state they will not fight the order and the result will be that jitney traffic in the city will cease.

The Sherbrooke St. Ry. is reported to have placed in operation a car of a new design with some special features patented by F. X. Couture, Superintendent. The car has seating capacity for 32, and separate entrance and exit are arranged at each end, both working in conjunction with the steps.

The Sarnia, Ont., police magistrate, on July 12, dismissed a case in which the Sarnia St. Ry. was charged with violating the traffic bylaw by blocking Davis St., at the intersection of Front St., with its cars. The magistrate stated that the proceedings had been instituted with a view of letting the company understand that the provisions of the bylaw must be

The Guelph Ry. management was notified by the Ontario Government, July 10, that it was prepared to make a substantial concession in the rate paid the railway for hauling freight to and from the Agricultural College. The G.R.R. notified the college authorities recently it would cease hauling freight unless granted an increased rate. The government's offer has been accepted.

Of the nearly 450 jitney drivers in Winnipeg, over 300 are members of the Jitney Association, which has offered to the city to back a bond covering claims from $25 to $1,000, on behalf of its members. This offer is made because the association claims the premiums charged by standard companies are too high. The proposal is to be considered by the license committee.

The Mayor of Montreal claims that the commission appointed by the Quebec Legislature to draw up a new franchise for the Montreal Tramways Co. should show more energy in its work. The commission has been at work for six months, and although the task it was set demands much research and careful consideration, he is of opinion that it is time for the commission to show results by submitting the details of the new franchise.

The Calgary Municipal Ry. was opened for traffic, July 5, 1909, the system comprising 3 miles of track over which 2 cars were run. On the eighth anniversary the system comprised 47 miles of track over which 78 cars were being operated, all of them on the one-man system. Commissioner Graves is reported to have said the C.M.R. is the only system of the size on the continent successfully operated on the one-man car plan.

Quebec Railway, Light, Heat and Power Co's Appointments.

In consequence of the death of H. G. Matthews, General Manager, the following appointments have been made, the offices in each case being at Quebec, Que.:

W. J. LYNCH, heretofore Treasurer and Comptroller, has been appointed General Manager.

R. A. WILSON, heretofore cashier, has been appointed Treasurer.

H. K. TENNANT, heretofore accountant, has been appointed Comptroller.

J. J. O'BRIEN, heretofore assistant accountant, has been appointed accountant.

C. J. PIGOT, heretofore Maintenance of Way Engineer, has been appointed Chief Engineer.

M. VALLEE has been appointed cashier.

H. MYRAND has been appointed assistant accountant.

Transportation of Postmen in Regina.—As stated in Canadian Railway & Marine World for April, the Regina, Sask., City Council decided, on July 3, by a majority vote, to accept the Post Office Department's offer of $35 a man per year for carrying postmen on the Regina Municipal Railway, instead of $25 as previously paid, although the proposal was strongly opposed by the mayor and three other councillors and had been reported against by the city commissioner. It was decided that the contract be for one year, the postmen only to ride, without paying fares, when on duty and not after 6 p.m. At another meeting of the council on July 3, it was decided, against the mayor's advice, to make a contract with the departsioner has arranged to issue serially numbered tickets, one for each postman, so as to try and prevent a greater number riding than the Department pays for.

Dynamiter Sentenced.—M. J. Herlihy, financial secretary of one of the Amalgamated Association of Street and Electric Railway Employes' Divisions, in New York, was sentenced recently to from 10 to 20 years imprisonment for participating in the attempt to destroy an uptown subway station, by dynamite, during the transit employes' strike in October last.

Toronto & York Radial Ry. Wages.—The T. & Y.R.R. increased its motormen's wages $10 a month on July 1, making them as follows: 1st year, $70; 2nd year, $75; 3rd year and after, $80. These rates are for a 10 hour day.

Toronto Civic Ry. Employes' Wages.—The Board of Control h—as under consideration, the matter of some increases in the wages paid to employes on the Toronto Civic Ry.

Electric Railway Finance, Meetings, Etc.

British Columbia Electric Ry. and allied companies.—The percentage paid to the city of Vancouver in respect of the street railway traffic for June was $2,309.34, compared with $3,121.94 for June, 1916. The number of passengers carried during June was 1,708,429, about 500,000 less than in June, 1916, and about 860,000 less than in May, 1917. There was a strike throughout the system for 9 days during June.

British Columbia Electric Ry. and allied companies.

	May, 1917	May, 1916	11 mths. to May 31,'17	11 mths. to May 31,'16
Gross	$438,919	$414,215	$4,952,727	$4,662,300
Expenses	366,190	351,385	3,910,597	3,864,917
Net . .	72,729	62,830	1,042,130	797,383

Cape Breton Electric Co.—

	May, 1917	May, 1916	5 mths. to May 31,'17	5 mths. to May 31,'16
Gross	$36,029.83	$30,278.31	$174,883.55	$148,438.10
Exp.	25,167.11	20,035.76	110,453.33	96,040.08
Net	10,862.72	10,242.55	64,430.22	53,098.02

Edmonton Radial Ry.—

Total revenue for May	$39,416.77
Operating expenses	36,432.85
Net operating revenue	2,973.92
Capital charges and depreciation	21,070.73
Loss	$18,096.81

The International Ry., Buffalo, N.Y., which operates the Niagara Falls Park and River Ry., in Canada has been authorized by the New York Public Services Commission to issue $1,500,000 of its refunding and improvement 5% bonds of 1912, to pay for extensions and improvements and additional rolling stock, and to refund $25,000 car trust certificates due in 1917. The company plans to purchase 55 new cars and improve present equipment.

Nelson St. Ry. (Municipal) earnings for 6 months ended June 30, $6,997.39; expenditure, $7,220.74; deficit, $223.35. The earnings show an increase of over $600 above those for the six months ended June 30, 1916.

Sherbrooke Power & Ry. Co.—It is reported that negotiations are in progress between the company and the Sherbrooke, Que., City Council for the purchase by the latter of the company's electric railway. The chief point at issue is the price, which the council contends is too high.

Toronto Civic Ry.—Receipts for June, $22,716.29, against $18,142.72 for June, 1916. Receipts for six months ended June 30, $139,974.33, against $107,116.36. Passengers carried in June, 1,342,062, against 1,078,600 for June, 1916.

Toronto Railway:

	1917	City percentage	1916	City percentage
Jan. . .	$510,053	$ 76,508	$473,784	$69,847
Feb. . .	473,184	70,976	470,704	70,614
Mar. . .	531,080	105,857	518,555	97,237
Apr. . .	510,334	102,066	496,172	99,234
May . .	510,870	102,174	500,515	100,103
June . .	499,732	99,946	467,086	93,417
	$3,035,253	$557,527	$3,926,816	$530,452

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

	May, 1917	May, 1916	5 mths. to May 31,'17	5 mths. to May 31,'16
Gross .	$992,460	$903,924	$4,889,055	$4,450,708
Expenses	516,164	446,050	2,545,293	2,299,125
Net . .	476,296	457,874	2,343,762	2,151,583

Winnipeg Electric Ry.—Gross earnings for May, $259,793.83; net after operation, $64,144.67; net after fixed charges, $3,856.26.

	May, 1917	May, 1916	5 mths. to May 31,'17	5 mths. to May 31,'16
Gross . .	$259,794	$276,980	$1,419,144	$1,446,788
Expenses	195,649	173,703	1,032,911	903,851
Net . .	64,145	103,277	386,233	542,937

The Toronto Railway Employes' Strike.

Following a demand served on the company for an increase of 10c an hour in wages, and some changes in general working conditions, the Toronto Ry. employes struck work at midnight, July 10, certain night cars completing their schedules and returning to the barns at 5.30 a.m., July 11.

The agreement under which the men had been working, was entered into July 12, 1915, and was for 2 years from June 16, 1915. The rates of pay per hour being as follows:

Motormen and conductors—1st year, 23½c; 2nd year, 25½c; 3rd year and after, 27½c; Sunday work 4c an hour in excess of week day rate.

Shed men, foremen, 27½c; assistants, 24½c; car washers, 23½c; motor and truck repair men, 1st year, 23½c; 2nd year, 25½c; 3rd year and after, 27½c. On Nov. 1, 1916, although the agreement had 7½ months to run, the company, on account of cost of living, etc., voluntarily increased the wages 2½c an hour, except to car washers, who were advanced 1½c.

Some weeks prior to the expiry of the two years agreement negotiations took place as to a new agreement, but owing to the absence of officials, etc., the matter was somewhat delayed. At a mass meeting of employes, July 8, it was resolved that a demand be made for an all round increase of 10c an hour, with time and a half for work on holidays, and this was sent, and 48 hours given for consideration. The company's management after considering the demand, replied that it could not accede to it, but offered an increase of 2c an hour as a war bonus, which with the voluntary increase of 2½c an hour, and 1½c an hour to car washers would make increases of 4½c and 3½c respectively over the rates provided in the expiring agreement. In the event of this offer not being accepted, the company offered to arbitrate the matter, either under the Industrial Disputes Investigation Act, or before an independent board, and to abide by the decision.

A final meeting of employes took place at midnight, July 10, when after several futile efforts had been made to bring the parties together, the men decided to reject the company's offer, and also declined to arbitrate, the vote for a strike being almost unanimous. An international union official who was present announced that the union's constitution provided for arbitration, but that the matter rested with the men themselves. If, however, they declined arbitration, the international union could not, in the face of the provisions of the constitution, countenance the strike.

On the application of the Mayor of Toronto, the Ontario Railway and Municipal Board intervened, on July 11, and A. B. Ingram, Deputy Chairman of the Board endeavored to bring the parties together, suggesting to the company that it pay, and to the men that they accept, an increase of 5c an hour, pending investigation. This attempt at settlement failed, and it was later announced that the board intended giving the company notice that unless the service was restored within a certain time, it would take hold of the system and operate it pending settlement. It was also stated that a "street railway expert" had been engaged to manage the system, and that he was in Toronto ready to take hold. The question as to whether the Ontario Railway and Municipal Board has the necessary power to operate the system under the conditions which existed, is an interesting one. A careful reading of the Ontario Railway and Municipal Board Act does not show that the board has such power, except possibly by inference, but it is almost impossible to see that any such inference can be drawn correctly from any of the clauses in the act covering the board's jurisdiction or powers to enforce its orders.

On July 12 some members of the Ontario Government met the company's General Manager, and after considerable negotiating, the company announced its willingness to pay an increase of 6c an hour until the differences were settled by an arbitration board. This was submitted to a meeting of the men at midnight, July 12, and was accepted, the men agreeing to arbitration under the Industrial Disputes Investigation Act. It was also agreed that car service was to be resumed as soon as possible, and this was done on July 13, at noon. Subsequently the men appointed D. A. Carey, of the Toronto Telegram, as their representative on the board, and the company appointed Duncan McDonald, formerly General Manager, Montreal Tramways Co., as its representative. These two representatives failed to agree on a third party to act as chairman, so the Minister of Labor appointed Judge Snider, of Hamilton, Ont., July 26.

The dislocation of business, caused by the interruption of the service, was considerable, vehicles of all kinds being requisitioned for the carrying of passengers from outlying points. Jitneys naturally reaped a harvest, as all regulations respecting their operation were temporarily suspended.

It was announced, July 12, that the Mayor of Toronto had communicated with the company, advising that he intended taking action against it for the loss of revenue, being percentage of receipts of the railway, owing to its non-operation, and that the claim would be based on an average of $20,000 a day. It is not known if this is intended seriously or not. He showed his hostility to the company in various other ways and undoubtedly seriously complicated the whole situation.

The position adopted by the employes apparently brings them under the operation of the Industrial Disputes Investigation Act, chap. 20 of 1907, clauses 56 and 59, where it is provided that it shall be unlawful for any employer to declare or cause a lockout, or for any employe to go on strike, on account of any dispute, prior to or during a reference to a board of conciliation and investigation under the provisions of the act, provided that nothing in the act shall prohibit the suspension or discontinuance of any industry or of the working of any persons therein for any cause not constituting a lockout or strike, and provided also that nothing in the act shall be held to restrain any employer from declaring a lockout, or any employe from going on strike in respect of any dispute which has been the subject of reference under the provisions concerning railway disputes in the Conciliation and Labor Act. It is also provided that any employe who goes on strike, contrary to the provisions of the act, shall be liable to a fine of not less than $10, nor more than $50, for each day or part of a day that he is on strike, and any person who incites or encourages or aids in any manner, any employe to go or continue on strike, contrary to the provisions of the act, shall be liable to a fine of not less than $50, nor more than $1,000.

Transportation of Postmen at Reduced Rates Prohibited in Nova Scotia.

The Nova Scotia Board of Public Utilities gave the following decision on June 14 in re Cape Breton Electric Co., Ltd., re transportation of postmen at reduced fares:

"This matter is brought to the attention of the board by a letter from the company, requesting the opinion of the board as to the legality of a practice, for some time prevailing, by which special priced tickets for car fares on the company's tramway are issued to mail carriers. The tickets are issued in books containing 100, the price per book being $3, and each ticket entitling a mail carrier in uniform to one ride. The lowest rate charged to all other customers is 5c a trip.

"This company was incorporated by chap. 130 of the acts of 1900. By rule 8 of schedule A to that chapter, which is incorporated with the act and is to have the force of law, the minimum rate of a single fare is to be 5c. The Public Utility Act prohibits any discrimination in rates and no authority or legal sanction for the rate under consideration has been suggested. Such being the case the board is of the opinion that the special rate is contrary to both the company's act of incorporation and the provisions of the Public Utilities Act. The practice referred to must be discontinued."

For several years the Cape Breton Electric Co. sold tickets for postmen, at the special price of $3 per 100, but some months ago notified the Post Office Department that it would discontinue to do so. However, the local postmaster had a considerable stock of the reduced rate tickets on hand and the postmen have been continuing to use them. In view of the decision above quoted it is a question whether their use should not be immediately discontinued.

Regulation of Electric Railway Service in Glace Bay, N.S.

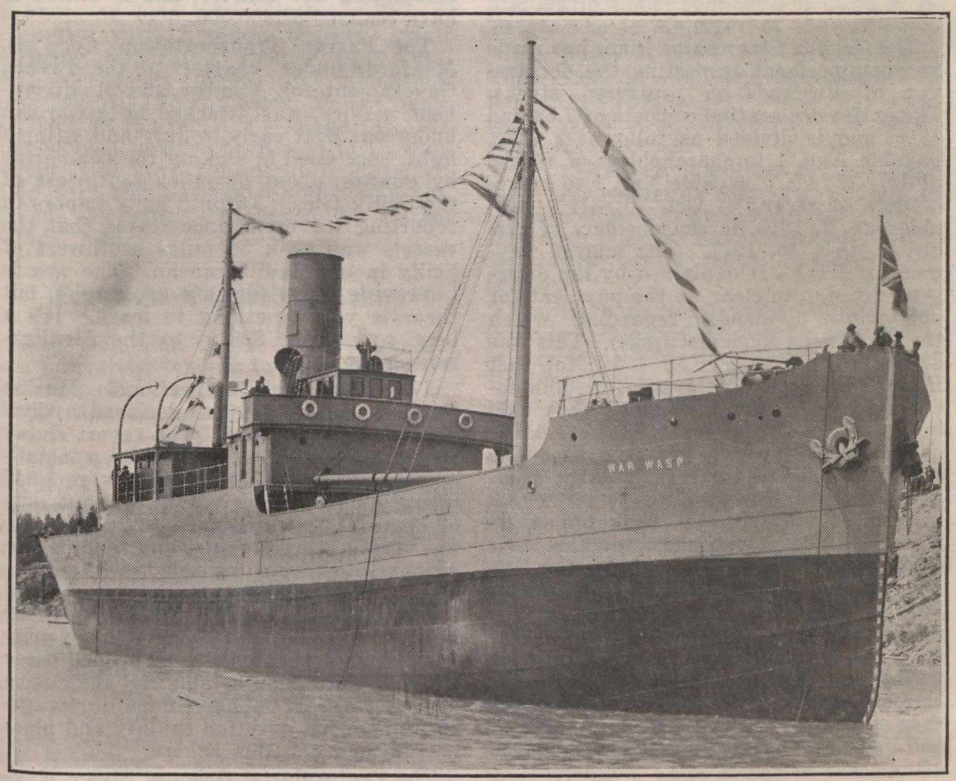
The Glace Bay Town Council has passed an ordinance, providing that no tram passenger car, while operating within the town limits, shall carry more passengers than there is seating accommodation for, and in no event more than 50 passengers. It also provides that the Cape Breton Electric Co. shall, when traffic requires it, place in service a sufficient number of extra cars, following the regular car, to provide comfortable accommodation for all persons desiring to travel on the company's lines, through, from, or to, the town.

The ordinance was passed under the Cape Breton Electric Tramway & Power Co.'s Act of Incorporation, Nova Scotia Statutes, 1900, chap. 130, schedule A, rule 13, which provides as follows: "The municipal council of the County of Cape Breton, and the councils of the incorporated towns and the towns to become hereafter incorporated, shall have power to make such other rules and regulations as may in their judgment be necessary for the safety and comfort of their citizens, and to impose such penalty for the breach thereof as they may deem proper."

Marine Department

Nova Scotia Steel and Coal Co's Shipbuilding Operations.

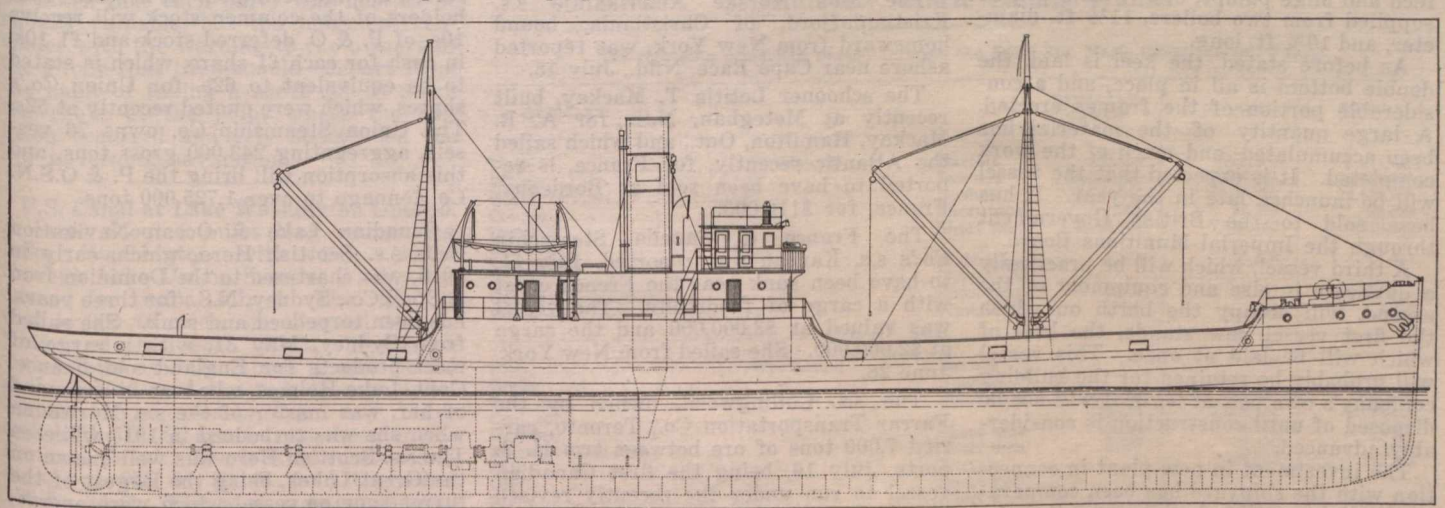
In May, 1916, the Nova Scotia Steel & Coal Co. began building a small cargo steamer primarily intended for its coasting trade. A site on the East River, near the plant of its subsidiary, the Eastern Car Co., was selected. This site is an admirable one, as during the past few years considerable dredging has been done, which when completed during this present year, will make the river navigable for large ocean going vessels. Naturally, a considerable amount of pioneer work was necessary. The site was cleared, buildings erected, a berth laid, and a capable staff organized, the keel of the vessel being laid early in the autumn of 1916. This vessel has several unique features. The principal dimensions are: Length over all, 230 ft.; length between perpendiculars, 220 ft.; molded depth, 20 ft.; beam, 35 ft. Her load draught will be 17 ft., with a carrying capacity of 1,800 to 2,000 tons; displacement when loaded, 2,870 tons, and a speed of 11 knots.



Cargo steamship, War Wasp, built by Nova Scotia Steel & Coal Co.

The general arrangement of the vessel, which is being built to Lloyd's 100 A1 class, is shown by the accompanying illustration. She is of the single deck type, with bridge and topgallant forecastle, the propelling machinery being placed amidships. The forecastle deck is 26 ft. long and the bridge deck is 56 ft. long, the space between main and bridge decks being available for cargo or bunkers. The ship is provided with complete double bottom of the cellular type, constructed with solid and open floors, having centre divisions and two longitudinal girders on each side, running the entire length. The space between the bottoms is arranged for for water ballast, so that a desired draft can be obtained when the ship is sailing without cargo. Four watertight bulkheads, extending to the main deck, divide the two cargo holds from the machinery space and peaks. The forward hold has two hatchways, each 28¾ x 19 ft. wide, one hatchway of the same dimensions being fitted to the after hold. The holds are large and clear of stanchions. The forward ones have a capacity of 53,000 cu. ft., and the after hold 22,000, or a total capacity of 75,000 cu. ft. In the forehold, at a point between the two hatchways, a deep web and arch frame has been fitted, with large brackets to the deck, thus eliminating stanchions and leaving the hold clear of obstruction. The ship will have 2 steel masts, each about 55 ft. high above the main deck, and for the handling of cargo the foremast will be provided with 2 derricks, while the mainmast will have 1, each derrick having a lifting capacity of three tons. For this purpose deck winches of the latest type will be supplied.

The vessel is of steel throughout, the frames spaced 23 in. apart, from the sternpost to abaft the collision bulkhead, where they are spaced 20 in., and, to cope with ice conditions, the spacing in the forepeak is reduced to 17 in., with heavy side plating at the load water line. This, together with panting beams and stringers, will make the vessel exceptionally strong at the forward end. At the fore end of the bridge will be a deck house, containing, on the bridge deck level, the captain's room, a spare room, steward's room, dining room, pantry, stores and other offices. Above this will be the chart room, pilot house and navigating bridge. Abaft of the captain's quarters, the chief officer and chief engineer, together with the junior officers and engineers, will be housed, also the cook. Accommodation in the forecastle will be provided for 5 seamen and 4 firemen. Here also will be the crew's wash room, lamp room and dunnage room.



Cargo steamship, War Wasp, built by Nova Scotia Steel & Coal Co.

The propelling engines will be De Laval

geared impulse type steam turbine, the first of this type to be placed on any ship in Canada. They are laso said to be the first set of De Laval geared turbines to be placed in a freighter, although since the vessel was laid down similar engines have been adopted by many United States shipbuilders. These engines will be capable of developing 1,000 brake shaft h.p. when running at a speed of 4,000 revolutions a minute. This will be reduced to 80 r.p.m. at the propeller, through two sets of reduction gears. The gears will be supplied with oil from a tank placed on the main deck. A separate pump will be used to draw the oil from gear casings and deliver it to this tank through a water cooler. There will also be a separate pump to supply cooling water. Air and circulating pumps will be driven by a separate engine, capable of maintaining a vacuum of 28½ in. with the engines developing full power. The feed pump will be driven by a chain from the propeller shaft. The vessel will be provided with the usual installation of ballast, general purpose and bilge pumps and fittings. Steam will be furnished at a working pressure of 185 lb. a sq. in. by 2 Scotch type marine boilers, each 11½ ft. in diameter and 11½ ft. long, and a high degree of steam economy is guaranteed. The three winches, of the usual type, have been designed and built locally.

This vessel, which was launched on July 9, has been bought by the Imperial Munitions Board for the British Government and has been named War Wasp.

The keel has been laid for a second vessel of the following dimensions: Length over all, 257¾ ft.; length between perpendiculars, 248¾ ft.; breadth molded, 35 ft.; depth molded 20 ft. This vessel will be of the single deck type, with bridge, forecastle and raised quarter deck aft and steel deck house and chart room on top of deckhouse, and will be built on the transverse system of construction. The propelling machinery will be located amidships, with the coal bunkers in wings. There will be 2 cargo holds, with 2 large hatches forward and 2 aft.

The propelling engines will be direct acting surface condensing triple expansion type, with condenser of the uniflex type, and the usual equipment of air, feed and bilge pumps, etc. Steam will be supplied from two boilers, 11½ ft. diameter, and 10¾ ft. long.

As before stated, the keel is laid, the double bottom is all in place, and a considerable portion of the frames erected. A large quantity of the material has been accumulated, and much of the work completed. It is expected that the vessel will be launched late in the year. It has been sold to the British Government through the Imperial Munitions Board.

A third vessel, which will be practically a duplicate in size and equipment of the second, will occupy the berth on which the first vessel now stands, the keel of which will be laid at once. This vessel will probably be retained for the building company's own use, at least, it will not be disposed of until construction is considerably advanced.

The investment in new plant in connection with the shipyard has been comparatively light. The building berths are served by three electric cranes, which command and serve the entire area of the berths. Shop work, such as bending frames, shearing, punching and countersinking plates, shop rivetting and similar work, is done in the Eastern Car Co.'s plant, which company also supplies the yard with electric power for the necessary cranes, lighting, etc., and compressed air for pneumatic rivetting, chipping, caulking, reaming, etc. The great bulk of the material entering into the construction of these vessels is of Nova Scotia manufacture. The stem sternpost and rudder frogings, all propelling shafting, propeller, and all fittings are made at the Nova Scotia Steel & Coal Co.'s plant, and the frame angles, floor plates, etc., are rolled in the company's mills.

Canada Steamship Lines' Dividends.

The Canada Steamships Lines has made an announcement respecting the declaration of dividends on preferred stocks. The entire declaration consists of 7.58 and ⅛%, and is divided as follows: 2 1/3% payable Aug. 1 to shareholders of record of July 15; 1¾% payable Nov. 1 to shareholders of record of Oct. 15; 3½% payable Jan. 2, 1918, to shareholders of record of Dec. 15, 1917. The uneven payment of 2 1/3% is explained by the directors' decision to clear up the payment for one month dividends, regarding which there has been some discussion. This was settled by allowing 0.58 1/3% for last December. The declaration also introduces the new policy of making payments quarterly hereafter, instead of annually, as announced a couple of years ago. The change is due to the fact that the company is now operating all the year round, instead of only during the summer, as formerly. The declaration of the dividends on the preferred stock for the balance of the year was made for the purpose of disposing of the matter finally, and clearing up all outstanding obligations on the preferred stock, together with those which would accrue during the balance of the year. The company will then start the new year with a clean sheet and make its declarations quarterly hereafter.

Atlantic and Pacific Ocean Marine.

The s.s. Sellasia, owned by Wm. Thomson and Co., St. John, N.B., is reported to have been sold to a British firm.

The Don Norske Amerikainje s.s. Kristianiafjord, of Christiania, bound homeward from New York, was reported ashore near Cape Race, Nfld., July 15.

The schooner Letitia T. Mackay, built recently at Meteghan, N.S., for A. B. Mackay, Hamilton, Ont., and which sailed the Atlantic recently, for France, is reported to have been sold at Bordeaux, France, for $110,000.

The France & Canada Steamship Co.'s s.s. Kansan was reported, July 11, to have been sunk near the French coast with a cargo of foodstuffs. The vessel was valued at $3,000,000 and the cargo at $2,000,000. She sailed from New York, June 28.

The s.s. Collingwood, owned by the Farrar Transportation Co., Toronto, carried 7,000 tons of ore between two U. S. ports, July 16, being the first Canadian vessel to run under the recently revised coasting regulations permitting reciprocal coasting privileges for Canadian and U.S. vessels.

The Marine Department has established an occulting white light on the outer end of the revetment wall on the south side of the Mission Channel entrance to Fort William. The light is shown from a lens lantern, on a wooden pole, surmounting a shed. It is 26 ft. above water level, is visible for 10 miles from all points of approach, and flashes 0.33 sec. alternating with an eclipse of 1.67 secs.

The s.s. Unkai Maru No. 5, recently under charter to Canadian Pacific Ocean Services, Ltd., for Pacific Ocean operation, was formerly the s.s. Robert Dollar, and owned by the Robert Dollar Steamship Co. It is stated that she originally cost $250,000 to build, and that in 1915 she was sold to Japanese interests for $2,000,000. She has again been sold since completing her charter, and is stated to have realized $2,600,000.

The Farrar Transportation Co.'s s.s. Meaford, under charter to the French Government for Atlantic and Mediterranean service, was attacked by a German underseas boat early in July and, after a fight, succeeded in sinking the submarine by gunfire, about 50 miles southwest of the Scilly Isles. Toronto daily papers in reporting the occurrence stated that the vessels was sunk 50 miles southwest of Scilly in the Mediterranean. The war is improving konwledge og geography, but theer is yet something to learn. It's a long way from Scilly to the Mediterranean.

The Marconi International Marine Communication Co. has declared a dividend of 15% for 1916. The report shows that the Marconi system has been installed on 1,855 vessels, and there were 3,347 operators employed. Many gallant acts of operators sticking to their posts while the vessels were sinking, and sending positions, etc., were recorded, while it is shown that 333 operators were saved from vessels sunk, 45 were drowned, 29 injured, 1 killed and 19 were taken prisoners. One operator was torpedoed three times in three months and was anxious to go to sea again, but the company rewarded him for his devotion to duty and placed him in a position ashore.

The Peninsular & Oriental Steam Navigation Co. is reported to have absorbed the Union Steamship Co. of New Zealand, which operates steamships between Australasia and Canada, and carries the mails under Dominion Government subsidy. The Union Steamship Co. has an authorized capital of £2,000,000, half preferred and half common. It is stated that holders of the common stock will receive 10s. of P. & O. deferred stock and £1 10s. in cash for each £1 share, which is stated to be equivalent to 62s. for Union Co.'s shares, which were quoted recently at 52s. The Union Steamship Co. owns 76 vessels, aggregating 243,000 gross tons, and this absorption will bring the P. & O.S.N. Co. tonnage to over 1,725,000 tons.

Canadian Lake & Ocean Navigation Co.'s s.s. Scottish Hero, which, early in 1915, was chartered to the Dominion Iron & Steel Co., Sydney, N.S., for three years, has been torpedoed and sunk. She sailed from Sydney, May 31, with a cargo of steel products for England and France. Capt. Luke Holmes, who was in command of her, was master of the s.s. Morwenna when she was torpedoed in 1915 while en The s.s. Scottish Hero was well known on the Great Lakes, being the largest of the turret type of vessel which were operating on the Upper Lakes for some years, and which have now disappeared. She was built at Sunderland, Eng., in 1895, her dimensions being: length, 297 ft.; breadth, 40 ft.; depth, 24.1 ft.; tonnage, 2,201 gross, 1,386 register. She was equipped with triple expansion engines route from England to Canada in ballast. and three Scotch boilers.

Maritime Provinces and Newfoundland.

A steamship built recently at Shelburne, N.S., and engined at Yarmouth, N.S., is expected to be placed in service between St. John, Westport and Yarmouth, by Hugh Cann & Sons, during August.

The Wedgeport Steamship Co.'s s.s. Vera B. Collin was launched recently at Wedgeport, N.S. She is intended for freight service and has a speed of about 8 knots an hour when loaded. She is equipped with 2 steam winches, steam steering apparatus, electric light, etc., and is schooner rigged. Her dimensions are: length, 137 ft.; beam, 25 ft.; depth of hold, 12 ft.; register tonnage, 200. She is reported to have been sold to C. Hannevig, New York, for operation in connection with the National Shipbuilding Co., which is being established at Harbor Grace, Nfld.

Province of Quebec Marine.

The Dominion Public Works Department received tenders to July 26 for the erection of a transmission pole line between the old and new dry docks at Lauzon.

The Dominion Government s.s. Argenteuil, built recently at the government yards at Sorel, for Marine Department buoy service on Lake St. Louis, Ottawa River, etc., has been completed, and entered service, July 9. She was launched at Sorel in Oct., 1916, and was described and illustrated in Canadian Railway and Marine World for Dec., 1916.

Judgment was given in the Quebec Admiralty Court recently in the matter of the cross suits arising out of the collision between Furness, Withy & Co.'s s.s. Hochelaga, under charter to the Dominion Coal Co., and the s.s. Etoile, in the St. Lawrence River, July 19, 1916. The former claimed $20,000 from the owners of the Etoile, while the latter counterclaimed for $7,000. The judgment given was that each party should pay half of the other's claim, and each pay their own costs. From this it would be taken that each party was held to be equally culpable, but the judgment concludes with the warning to the owners of the Etoile that they should "depart from the habit of taking a short cut to reach the shore at the point where the collision occurred and rely strictly on the law governing navigation."

U.S. Canal at Lake Washington Opened. A canal about 8 miles long, connecting Lake Washington with tide water through Lake Union, Seattle, Wash., was opened for traffic, July 4. The right of way is 300 ft. wide, the channel 100 ft. wide, and the depth 36 ft. The fresh water level is 9 ft. about Puget Sound at high tide, and the lock is capable of lifting larger vessels than any other lock in the U. S., apart from those on the Panama Canal. The lock has two chambers, one 825 by 80 ft., and the other 150 by 30 ft. The work was commenced in Nov. 1911, and the total cost is $5,000,000.

The Beaver Steamship Co., Ltd., has been incorporated under the Dominion Companies Act, with authorized capital of $100,000 and office at Montreal, to own and operate steam and other vessels and carry on a general transportation business.

Ontario and the Great Lakes.

The Brockville Ministerial Association is endeavoring to restrain the steamboat Thousand Islander from making Sunday trips out of that town.

Kolbe and Co., Port Dover, have placed a new vessel, the s.s. City of Port Dover, in service between Port Dover and Erie, Pa., making four round trips a week.

The Collingwood Steamship Co.'s s.s. City of Meaford is operating on a weekly schedule between Collingwood and Sault Ste. Marie, under command of Capt. F. G. Moles, who is Manager of the company.

The wreck of the s.s. John Plankinton, which sank in the Canadian channel of the Detroit River a few weeks ago, is being demolished by dynamite. The cargo and machinery have been salved.

The C.P.R. s.s. Manitoba and the Lake Erie Transportation Co.'s s.s. William S. Mack collided during a heavy fog off Whitefish Point in Lake Superior, July 9, the latter vessel being damaged and beached.

We have been officially advised that there is nothing in the report, referred to in our last issue, that the Great Lakes Transportation Co., Midland, had purchased the s.s. Forest City for service on the Georgian Bay route.

The s.s. Saronic, which was practically destroyed by fire about two years ago, and which was salved, overhauled and refitted, has again been placed in service, after being renamed W. L. Kennedy. She was formerly owned by the Northern Navigation Co.

The s.s. Rochester, owned by Canada Steamship Lines, Ltd., and registered in the U.S., now under charter to the Northern Navigation Co., a Canada Steamship Lines subsidiary, has been placed on the route between Cleveland and Detroit, thus acting as a feeder for the company's Lake Superior vessels.

The underwriters are offering for sale the wrecked s.s. Natironco, as she lies beached on the Canadian bank of the Detroit River, opposite the Ecorse Shipbuilding Co.'s plant. She was owned by the A. B. Mackay Steamship Co., Hamilton, and was sunk in collision with the s.s. Eastern States, June 19, and abandoned to the underwriters.

The U.S. Lake Survey reports the levels of the Great Lakes for June, in feet above mean sea level, as follows: Superior, 602.60; Michigan and Huron, 581.53; St. Clair, 576.31; Erie, 573.53; Ontario, 246.98. Compared with the average June levels for the past 10 years, Superior was 0.34 ft. above; Michigan and Huron, 0.76 ft .above; Erie, 0.62 ft. above, and Ontario, 0.06 ft. below.

A portion of the bank of the Welland Ship Canal, at a point where the highway between St. Catharines and St. Davids crosses the canal, near Homer, gave way, July 14. All work on the canal has been suspended by the government for the remainder of the war, and questions have been asked in Parliament in connection with the matter, it being strongly urged that the stoppage is causing serious deterioration of the work already done.

The Allan Line Taken Over.—Canadian Pacific Ocean Services, Ltd., which was organized for the purpose of taking over and operating the steamships hitherto run by the C.P.R., and by the Allan Line Steamships Co., the control of which had been in C.P.R. hands for several years, has completed all the arrangements necessary for the transfer and has taken over the vessels of the Allan Line and the company's offices in the United Kingdom, as from July 1. When the company was organized in 1915, it was the intention to take over the vessels of the two companies, as from Jan. 1, 1916, but it was thought desirable to defer this until a later date, and in the meantime, Canadian Pacific Ocean Services, Ltd., has been managing the C.P.R. and the Allan Lines.

Vancouver Drydock.—C. S. Meek, promoter of Vancouver Drydocks Ltd., is reported to have stated recently that the company is prepared to construct provided the Dominion Government will grant a subsidy.

Sault Ste. Marie Canals Traffic.

The following commerce passed through the Sault Ste. Marie Canals during June.

ARTICLES			CANADIAN CANAL	U. S. CANAL	TOTAL
Flour	Eastbound	Barrels	420,838	853,190	1,274,028
Wheat		Bushels	10,325,995	16,292,901	26,618,896
Grain		Bushels	4,697,044	9,936,859	14,633,903
Copper		Short tons	1,331	22,268	23,599
Iron ore		Short tons	1,993,201	7,525,150	9,518,351
Pig iron					
Lumber		M. ft. b.m.	1,358	50,306	51,664
Stone		Short tons			
General merchandise		Short tons	6,671	32,977	39,648
Passengers		Number	1,647	671	2,318
Flour	Westbound	Barrels		80	80
Grain		Bushels			
Coal, hard		Short tons	16,400	310,746	327,146
Coal, soft			129,631	1,666,787	1,796,418
Iron ore		Short tons	3,248	1,014	4,262
Manufactured iron		Short tons	2,387	11,416	13,803
Salt		Barrels		101,513	101,513
Oil		Short tons			
Stone		Short tons			
General merchandise		Short tons	40,361	173,808	214,169
Passengers		Number	2,136	208	2,344
SUMMARY					
Vessel passages		Number	855	2,681	3,536
Registered tonnage		Net	1,949,002	8,212,610	10,161,612
Freight—Eastbound		Short tons	2,440,696	8,413,434	10,854,130
—Westbound			192,027	2,179,006	2,371,033
Total freight			2,632,723	10,592,440	13,225,163

Manitoba, Saskatchewan and Alberta.

The Ross Navigation Co.'s steamboat Nipawin was launched at Pas, Man., June 16. Her dimensions are: length, 100 ft. over all; hull, 85 ft.; beam, 20 ft.; depth, 4½ ft. She will be fitted with one pair sternwheel engines, 8 in. diameter, with 42 in. stroke, and a dry-back Scotch boiler 6 ft. in diameter by 8 ft. long, with 150 lb. steam pressure. She will be equipped with all modern conveniences, including electric light and hot and cold water, and will have accommodation for 30 passengers and a carrying capacity of 30 tons of freight on a 2 ft. draught. She will be used in passenger and freight traffic between Pas and Sturgeon Landing, in connection with mining development north of that point. It is also intended to establish a regular service as well between Pas and Nipawin, a prosperous farming settlement about 200 miles west of Pas on the Saskatchewan River. The Ross Navigation Co. has been operating boats from Pas for the past eight years, and has 2 steam tugs each towing barges, hauling copper ore from Sturgeon Landing to Pas.

British Columbia and Pacific Coast.

The Wallace Shipyards, Ltd., North Vancouver, B.C., is being sued by the Matsuo Co., Seattle, Wash., for $52,500, claimed as commission on the sale of four steamships to Otto Dahl, Philadelphia, Pa., representing certain Norwegian interests.

Preliminary plans for a freight shed to be erected on the Government wharf at Vancouver, show a building 1,005 ft. long, 92 ft. wide and 20 ft. high under trusses. As soon as the final plans have been approved, tenders will be invited by the Dominion Public Works Department for the construction of the shed.

Mention was made in a recent issue of an action by the British Columbia Salvage Co. against the Pacific Coast Steamship Co. for salvage service in connection with the s.s. Congress. The Pacific Coast Steamship Co. has now entered a counter action, claiming that the salvage company's tug abandoned the Congress and when it returned the vessel had drifted from a soft bottom to a ledge where she pounded, receiving considerable damage. The counter claim is for $200,000.

The C.P.R. is being sued at Vancouver by Balfour, Guthrie & Co. for loss sustained by the heating of a cargo of grain on the s.s. Monteagle in Mar., 1915. It is alleged that the heating was caused by improper ventilation of the vessel. The C.P.R. contends that its vessels are equipped with the most modern ventilating appliances and there are none on other of its vessels which is not on the Monteagle. Expert evidence was called to prove that the structural arrangement of the vessel was correct and that moisture in the grain was the most frequent cause of heating.

The United States Navy Yards shipbuilding facilities are being expanded so that eventually 16 war vessels may be on the ways at one time, while fully 32 may be in course of construction. This number does not include submarines and submarine chasers.

The Port Arthur Shipbuilding Co. reports that its orders in hand for delivery by the close of navigation in 1918, approximate $6,000,000.

Mainly About Marine People.

D. O. Lesperance, Chairman, Quebec Harbor Commission, has been elected President, General Car & Machinery Co., Montmagny, Que.

James Playfair, President and General Manager, Great Lakes Transportation Co., returned recently from California, where he went to recuperate after an operation for appendicitis.

Capt. R. F. Carter, who has commanded the s.s. Maid of the Mist, the sightseeing steamboat at Niagara Falls, for 32 years, has retired, and has been succeeded by Lieut. Williams.

Capt. F. W. Livingstone, master of the barge Baroda, and formerly foreman, Empire Stevedoring Co., and subsequently in charge of the B. C. Longshoremen's Association, and member of the Shipmasters' Association of British Columbia, died at Cumberland, Vancouver Island, recently, from pneumonia, contracted as a result of exposure after rescuing his only boy from Union Bay.

W. I. Gear, Vice President, Robert Reford Co., steamship agents, etc., Montreal, who is acting as Director of Steel Shipbuilding for the Imperial Munitions Board at Ottawa, has been elected a director of Wabasso Cotton Co., Ltd.

F. S. Henning, Superintendent of the filtration plant at Toronto Island, died at Toronto, from cancer of the bowels, aged 58. In his early life he was a marine engineer in the Maritime Provinces, and later went west, where he continued the same business on Lake Winnipeg. He was in city service in Toronto for about 19 years.

H. W. Crawford, who was recently appointed General Agent, Canada Steamship Lines, Ltd., Cleveland, Ohio, was born at Bowmanville, Ont., Aug. 24, 1887, and entered Richelieu and Ontario Navigation Co.'s service, May 1, 1913, since when he has been, to 1914, Travelling Passenger Agent, Rochester, N.Y.; 1915 to 1917, District Passenger Agent, Chicago, Ill.

David Sylvester, who died at Toronto, July 18, aged 79, was first connected with lake navigation in 1848, when, at the age of 10, he sailed on the schooner Clarissa, then operating from the Humber River, Lake Ontario to Oswego, N.Y., with flour. He gave up the actual sailing of vessels in 1868, and in partnership with his brother, leased the Church St. wharf and elevator, where he carried on a general wharfage, grain storage and vessel owning business, from which he retired a few years ago. It was an interesting feature of the grain elevator operated by the brothers, that the grain was elevated in buckets containing 5 bush. at a time, which were drawn to the top of the cupola by a rope, running over grooved pulleys, and attached to a horse, which strolled a regulation number of feet into the yard every time a bucket of grain was elevated.

Japanese Steamships for the U.S.—It is reported that arrangements are being made between the U. S. and Japanese Governments, that the latter will supply about 50,000 tons of shipping for U. S. use, in return for shipments of steel. The Japanese Government is also endeavoring to induce the U. S. Shipping Board to place orders for steamships in Japan. It is said that steel vessels can be turned out there in about four months provided steel can be supplied.

Lake Vessels for Winter Service on the Atlantic.

A correspondent of the Toronto Globe, in writing in reference to the destruction of a German submarine by the Canadian s.s. Meaford, says: "I wonder why the large fleet of steamships similar to the Meaford should be idly tied up for four months of the year, in various Great Lake ports, when they could be usefully employed during this period in aiding materially to solve the critical transportation problem, which is of such vital moment to the allies at this time, and will be more so as the winter approaches, and the need becomes more urgent for the transportation of food supplies and munitions from America to Europe. Practically all of the lake steamships are capable of standing the test for ocean service, and there is no reason why this great fleet of Canadian and United States owned ships such as the Meaford should not be transferred with the approach of winter to the Atlantic seaboard and employed in helping to solve this transportation problem. Such employment would be both profitable to the owners of the vessels and helpful to the great cause, and with such a large fleet of ships of fairly uniform capacity and speed steps could be taken to convoy them that would largely, if not entirely, guard against submarine attacks, since experience shows that, where sufficiently convoyed, vessels can safely traverse the route between Europe and America, as witness the record established in the transportation of some 400,000 men from Canada to Britain without the loss of a transport.

Reciprocal Coasting Arrangement between Canada and the United States.—The following order in council has been passed changing the coasting regulations for U.S. vessels: Vessels of the United States shall be permitted to engage in the coasting trade of Canada on the inland waters between Lake Superior ports and Montreal without penalties being imposed, during the remainder of 1917. This regulation shall remain in force so long as similar privileges are in effect granted to Canadian vessels by the United States. An arrangement in the form of the practical suspension of penalties imposed by the navigation laws, on application from the foreign ships concerned, has also been made by the United States Department of Commerce, whereby Canadian vessels are enabled to carry cargoes from one U.S. port on the Great Lakes to another.

The Reid Towing and Wrecking Co., Ltd., which took over the Canadian business of the Reid Wrecking Co., Ltd., Sarnia, Ont., recently, has acquired the complete wrecking outfit, together with docks lands and buildings of the old company. The steam tugs, etc., named James Reid, Smith, Sarnia City, S. M. Fisher and Manistique, are also included. The company is at present engaged in salvage work on the s.s. Saxona, near Detour, R. M. Wolvin, Montreal, is President; and F. S. Isard, Comptroller, Canada Steamship Lines, Montreal, is Treasurer, and Capt. J. T. Reid, Sarnia, is Manager.

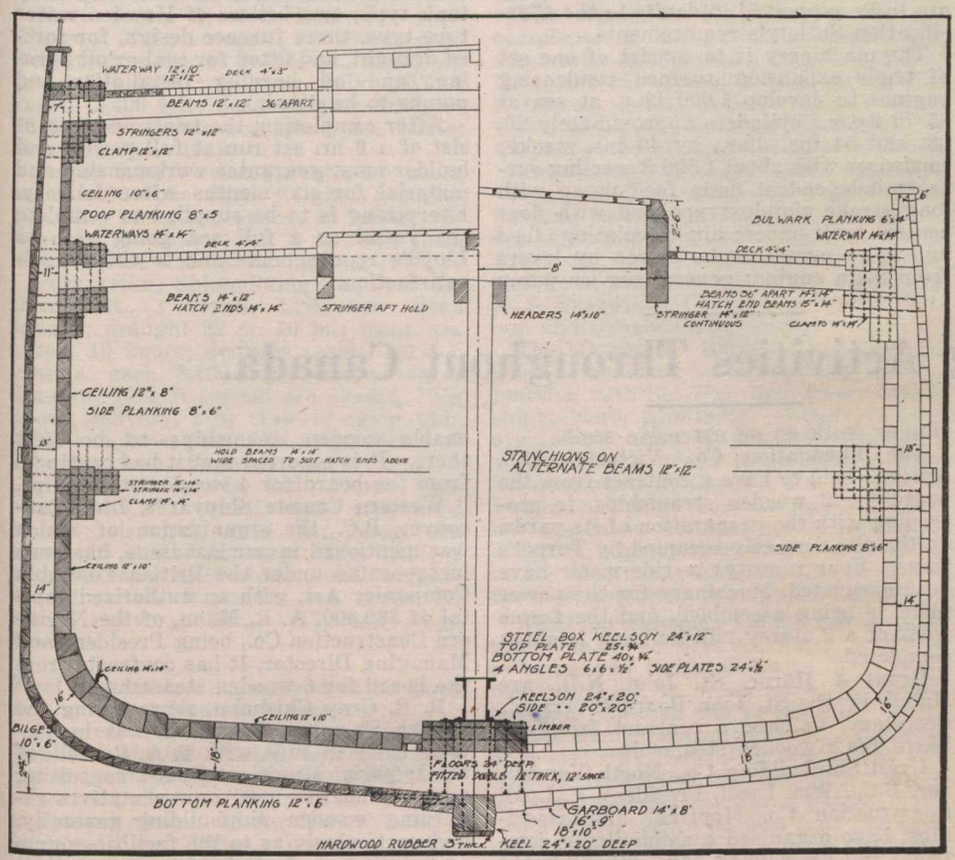
The Seattle Construction Co. has entered action at Vancouver against Grant, Smith & McDonnell, contractors, for $150,000 damage done to a floating dry dock which was capsized and smashed while under lease to the contractors on their work on the construction of the breakwater at Victoria.

Standard Specification for Wooden Steamships for British Government.

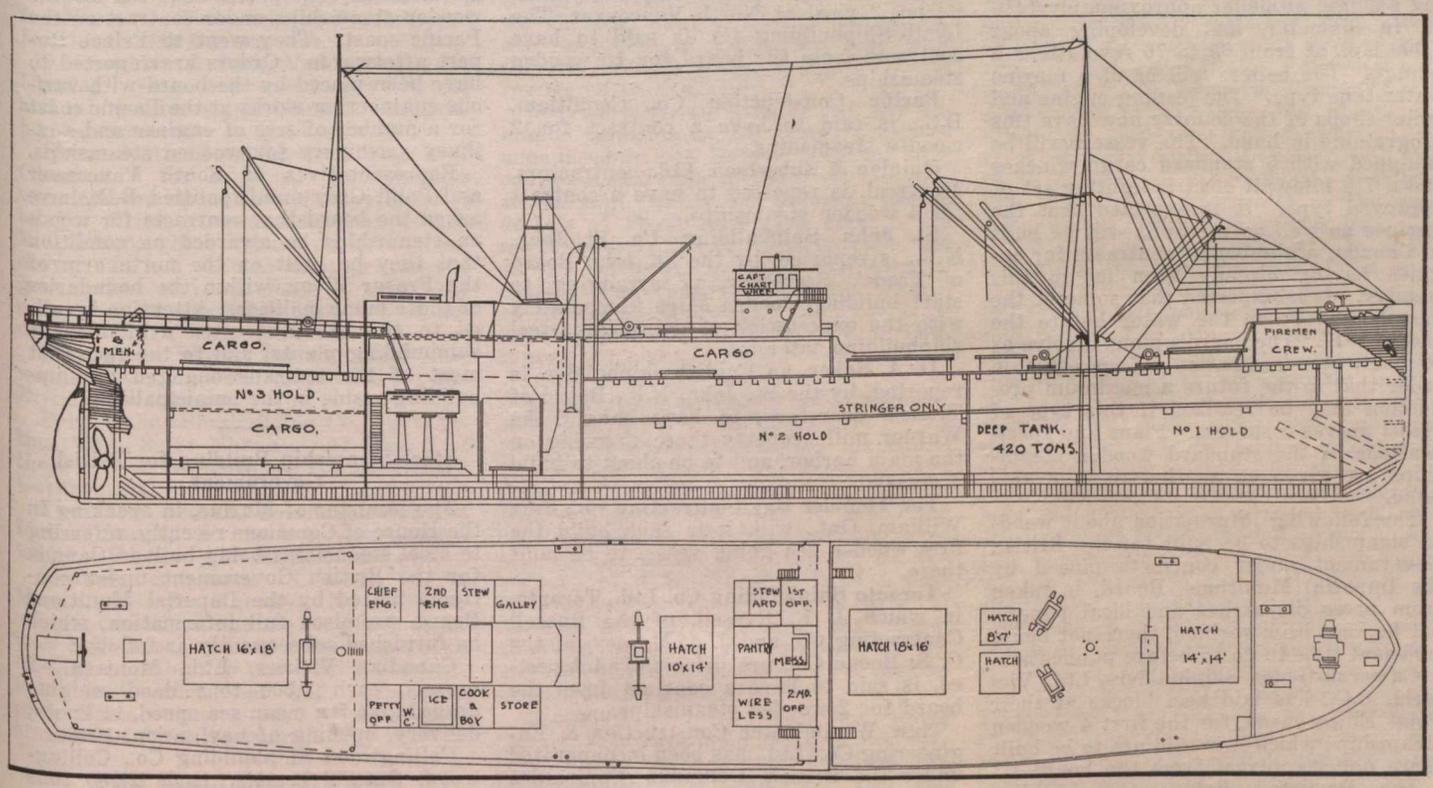
With the demand for immediate and speedy construction of steamships to replace losses due to submarine warfare, vessels in Canada has been placed in the hands of the Imperial Munitions Board at Ottawa by the British Government and but for the wooden vessels a general specification, with plans of general arrangement and amidship section, have been prepared. They are not intended to furnish working details, but are to be treated as general data intended to indicate in outline the class and construction of vessel required. The details of hull construction, fastening, etc., in specification are such as will meet in general with the approval of Lloyd's and the board's technical advisers, but nothing in the specification will relieve the contractor from the responsibility of employing a skilled staff to work out detail drawings and submit proposals for such details to the Classification Society and to the board's advisers, who will however, give all assistance in their power to help contractors, without accepting responsibility for the proper carrying out of the contract. The vessels are to be built to Lloyd's requirements for A1 classification and to the British Board of Trade requirements as far as necessary for cargo steamers. The hull's dimensions are to be as follows—

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

The hull is to be divided by 4 bulkheads in addition to deep tank bulkheads, viz., collision and aft peak bulkheads, and bulkheads at fore and aft ends of machinery space. All lumber used in construction is to be Douglas fir, unless otherwise specified, but in the case of yards in the Eastern and Maritime Provinces, the lumber may be such as can be easily obtained, but it must be approved by the board. Owing to the danger of corrosion arising in the steel work



Cross section, standard wooden steamships, for British Government.



Standard wooden steamships being built in Canada for British Government.

and to enhance the merchant service equipment generally, came the necessity for the adoption of a standard specification. The whole question of securing orders have been given for a large number of both wooden and steel steamships. For the steel steamships it has not been possible to have a standard specification,

specified, the keelson logs are not to be of oak except with the board's special permission.

Each vessel is to be fitted with top gallant forecastle and combined poop and bridge, 2 masts and derrick posts with cargo gear, 4 hatches with 5 steam winches, steam windlass with outfit and gear as required by rules, deep water ballast tank for approximately 400 tons of water, accommodation for officers and crew, bridge house with navigation bridge to be located at the forward end of the combined poop and bridge, officers and engineers to be housed alongside engine room casing. There is to be electric lighting equipment of 7½ k.w. capacity, driven by single cylinder, forced lubrication engine, to be supplied, with all cables, fittings, lamps and switchboard. Each vessel is to be provided with 2 class A lifeboats to British Board of Trade requirements, one on each side of the vessel, each fitted with yellow metal air tanks, compass, etc., and each boat to be capable of taking the whole crew; a dinghy and service boat are also to be supplied, and all boats are to be supported in davits to the Classification Society's requirements.

The machinery is to consist of one set of triple expansion surface condensing engines to develop 1,000 i.h.p. at sea at 65/70 r.p.m.; cylinders approximately 20, 33, and 54 ins. diar., by 40 ins. stroke; condenser with about 1,500 ft. cooling surface; independent main feed pump with long stroke simplex type and with float control tank under; air, circulating, feed and bilge pumps to be driven by levers from main engine; general service pump of duplex type to be fitted to serve as boiler feed pump; main feed pump of simplex long feed type, fresh water pump; ballast pump, duplex, 100 tons capacity; exhaust surface type feed heater; evaporator of 15 tons capacity; auxiliary condenser for winches; feed filter of gravity tank type; two boilers of Howden water tube type, three furnace design, for forced draught, and fitted for coal or oil burning, and oil burning installation and pumps to be fitted.

After completion, the trials are to consist of a 6 hr. set run at full power, and builder must guarantee workmanship and material for six months after delivery. Everything is to be supplied to complete the vessel as a full sea going ship to Lloyd's requirements and to the board's satisfaction.

Shipbuilding Activities Throughout Canada.

Wooden Steamship Building for British Government.

The Imperial Munitions Board gave out the following memo. on June 29: "Canada's production of wooden cargo ships has now become a real factor in the industrial life of the country. Contracts have been placed by the Imperial Munitions Board, under instructions from the British Ministry of Shipping, and at present there are about 30 ships under order on the British Columbia coast, and about 15 on the St. Lawrence, the lakes and in the east. These vessels are all from 2,500 to 2,800 tons d.w., and are 250 ft. long, by 43½ ft. molded breadth, by 25 ft. molded depth. Douglas fir is used for the hulls in the west and native hardwood is the principal material in the east. The vessels will be driven by triple expansion marine engines, 20 x 33 x 54 x 40, driving a single propeller approximately 14½ ft. in diameter, and developing about 1,000 h.p., at from 65 to 70 revolutions a minute. The boilers will be of a marine water tube type. The leading engine and boiler shops of the country now have this programme in hand. The vessels will be equipped with 5 standard cargo winches and a 7½ kilowatt electric lighting set of approved type. It is expected that the engines as well as the hulls will be built in Canada, a number of contracts for engines having already been let in this country. It is expected that some of the vessels will be in the water before the end of 1917. The board's plans involve as complete standardization as is possible, in order that in the future a maximum production may be realized if this type of vessel proves a success. Plans and specifications of the standard wooden steamships are given on another page of this issue.

The following information about wooden steamships to be built for the British Government, under contracts placed by the Imperial Munitions Board, is taken from press dispatches and local papers, but has not been verified, there not being sufficient time to do so before publication.

Cameron-Genoa Shipbuilders, Ltd., Victoria, B.C., has laid keel blocks at their Point Ellice yards, for the first 4 wooden steamships which it is said are to be built there under contract from the board.

The Dominion Bridge Co., Lachine, Que., has taken contracts to build a number of marine boilers, and several sets of engines, for wooden steamships for the board, and is adding to its plant and equipment, so as to be able to carry on similar work on an extensive scale.

The Foundation Co., Victoria, B.C., which is said to have a contract from the board for 5 wooden steamships, is proceeding with the preparation of its yards, on the site formerly occupied by Turpel's ways. Four runways to tide water have been excavated. Machinery for the power plant is being assembled, and the frame work of a 2 storey mill building is about completed.

Grant & Horne, St. John, N.B., are stated, by the St. John Board of Trade's Secretary, to have a contract from the board for 2 wooden steamships.

Lyall Shipbuilding Co., North Vancouver, B.C.,, Wm. Lyall, President, P. Lyall Construction Co., Montreal, and associates, have organized a shipbuilding company, and are said to have either bought or leased from Wallace Shipyards, Ltd., its no. 2 yard at North Vancouver. The Lyall Shipbuilding Co. is said to have contracts from the board for 10 wooden steamships.

Pacific Construction Co., Coquitlam, B.C., is said to have a contract for 2 wooden steamships.

Quinlan & Robertson, Ltd., contractors, Montreal, is reported to have a contract for 4 wooden steamships.

St. John Shipbuilding Co., St. John, N.B., is reported, by the St. John Board of Trade's Secretary, as arranging to start building wooden ships immediately with the expectation of going into steel shipbuilding later on.

D. A. Saker, an English shipbuilder, is reported, by the St. John, N.B., Board of Trade's Secretary, to have bought the Warner mill property there, fronting on the main harbor, and to be about to build 3 vessels.

The Thunder Bay Contracting Co., Fort William, Ont., will, it is said, build the first wooden sea going vessel to be built there.

Toronto Shipbuilding Co. Ltd., Toronto, in which J. E. Russell, of the Russell Contracting Co. and J. J. Manley, of the C. S. Boone Co., are principally interested, is said to have a contract from the board for 2 wooden steamships.

New Westminster Construction & Engineering Co., Ltd., has been incohporated under the British Columbia Companies Act, with authorized capital of $30,000. It is said to have acquired a site on Poplar Island, in the Fraser River, near New Westminster, from the Dominion Government, and to be proceeding rapidly with the construction work necessary to enable wooden steamships to be built there. It is reported that it has contracts from the board for 4 wooden steamships.

Western Canada Shipyards, Ltd., Vancouver, B.C., the organization of which was mentioned in our last issue, has been incorporated under the British Columbia Companies Act, with an authorized capital of $30,000, A. R. Mann, of the Northern Construction Co., being President and Managing Director. It has contracts from the board for 6 wooden steamships.

R. R. Gray Chisholm, representing the British Shipping Controller, was in Victoria early in July, with T. A. Russell, of the Imperial Munitions Board, consulting with the board's local representatives regarding wooden shipbuilding generally, and particularly as to the facilities offered for the manufacture of engines, boilers and auxiliary equipment required for the wooden steamships under contract on the Pacific coast. They went to Prince Rupert afterwards. Orders are reported to have been placed by the board with various engineering works at the Pacific coast for a number of sets of engines and auxiliary machinery for wooden steamships.

Representatives of South Vancouver and Point Grey municipalities, B.C., have asked the board that contracts for wooden steamships be awarded on condition that they be built on the north arm of the Fraser River, within the boundaries of those municipalities. Attention is called to the excellent sites available for shipbuilding plants, and to the fact that most of the artisans engaged in shipbuilding reside in the municipalities.

Steel Steamship Building for British Government.

The Minister of Marine, in speaking in the House of Commons recently, referring to steel steamships being built in Canada for the British Government under contracts placed by the Imperial Munitions Board, promised full information, which he furnished subsequently as follows:

Canadian Vickers, Ltd., Montreal, 2 vessels, each 7,000 tons dead weight; draught, 24 ft.; mean sea speed, 11 knots; delivery, opening of navigation, 1918.

Collingwood Shipbuilding Co., Collingwood, Ont., 2 vessels, each 2,900 tons dead weight; draught, 17½ ft.; mean sea speed, 10 knots; delivery, May and Aug., 1918.

J. Coughlan & Sons, Vancouver, B.C., 5 vessels, each 8,800 tons dead weight; draught, 24 ft. 2 in.; mean sea speed, 11

knots; delivery, Jan., Feb., Mar., May, and July, 1918.

Midland Drydock Co., Midland, Ont., 3 vessels, each 3,400 tons dead weight; draught, 19½ ft. to 19 ft. 10 in.; mean sea speed, 10 knots; delivery, 1 in July, 1918, 2 before close of navigation, 1918.

Nova Scotia Steel & Coal Co., Naw Glasgow, N.S., 1 vessel, 1,800 tons dead weight; draught, 17 ft. 1½ in.; mean sea speed, 9½ knots; delivery, July, 1917; 1 vessel, 2,400 tons dead weight; draught, 17 ft. 4 in.; mean sea speed, 8¾ knots; delivery, Jan., 1918.

Polson Iron Works, Toronto, 6 vessels, each 3,500 tons dead weight; draught, 19¾ ft.; mean sea speed, 10 knots; delivery, 2 in June, 1918, 2 in July, 1918, and 2 before close of navigation, 1918.

Port Arthur Shipbuilding Co., Port Arthur, Ont., 1 vessel, 4,200 tons dead weight; draught 22 ft. 10 in.; mean sea speed, 10 knots; delivery, Aug., 1917; 5 vessels, each 3,400 tons dead weight; draught, 19¾ ft.; mean sea speeed, 10½ knots; delivery, 1 by close of navigation, 1917, 1 in June, 1918, 2 in Aug., 1918, and 1 before close of navigation, 1918.

Wallace Shipyards, Ltd., North Vancouver, B.C., 1 vessel, 4,500 tons dead weight; draught, 22½ ft.; mean sea speed, 10 knots; delivery, June, 1917; 2 vessels, each 4,600 tons dead weight; draught, 22½ ft.; mean sea speed, 10 knots; delivery, Dec., 1917, and Aug., 1918.

Steel Steamships Authorized to be Built For Neutral Owners.

As previously stated in Canadian Railway and Marine World, the Dominion Government, last year, authorized 20 vessels to be built for delivery on completion, to neutral owners, 18 for Norway, and 2 for the United States. The present position in regard to these is as follows.

Canadian Vickers, Ltd., Montreal, 2 for Norway. These will be requisitioned for the British Government.

J. Coughlan & Sons, Vancouver, 3 for Norway. Only one was contracted for and this will be requisitioned for the British Government.

Nova Scotia Steel & Coal Co., New Glasgow, 2 for Norway. No contracts were entered into. The company has sold to the British Government one vessel, War Wasp, which it built on its own account. It has started another for the government and will build a third, the disposition of which has not yet been decided.

Polson Iron Works, Toronto, 4 for Norway. These will be requisitioned for the British Government.

Port Arthur Shipbuilding Co., Port Arthur, Ont., 3 for Norway. At least 2 of these will be requisitioned for the British Government.

Thor Iron Works, Toronto, 2 for the United States. It has not been decided whether these will be requisitioned or not.

Wallace Shipyards, Limited, North Vancouver, 4 for Norway. No contracts were entered into, but one steel steamship was built for Japanese owners and was sold, presumably, to the British Government, and named War Dog. The company has contracts for 3 more steel steamships from the board.

SHIPBUILDING NOTES.

Canada West Coast Navigation Co.'s auxiliary ship Jessie Norcross, completed recently at North Vancouver, has been chartered to convey 1,600,000 ft. b.m. lumber from British Columbia to Adelaide.

Canada West Coast Navigation Co.'s seventh auxiliary ship, Janet Carruthers, was launched from the Wallace Shipyards, North Vancouver, June 28. The launching took place at midnight, which is somewhat of a novelty, even for war time.

The American Shipbuilding Co. has completed a full Welland canal size steamship, at Superior, Wis., named Poitiers, for the Cie. des Chemins de Fer d'Orleans, Paris, France. She is sister vessel to the s.s. Toulouse built there for the same owners, and launched in April.

The Yarmouth Shipbuilding Co., Ltd., Yarmouth, N.S., held its first official meeting recently and elected the following officials and directors: Capt. A. Cann, President; John D. Kirk, Vice President; George R. Earl, Secretary-Treasurer; and H. S. Crowell, L. C. Gardner, George Killam and Donald Cann, directors.

The Dominion Bridge Co., Lachine, Que., is reported to be working in conjunction with Sir Wm. Beardmore & Co., shipbuilders, admiralty contractors and armament makers, Glasgow, Scotland, with a view to jointly establishing a shipbuilding yard in Canada, for which the Dominion Bridge Co. has practically all the equipment necessary. The greatest difficulty about going ahead appears to be the uncertainty of being able to secure the steel necessary for shipbuilding.

Auxiliary Schooner Building in British Columbia.—The fifth auxiliary schooner to be built by Cameron-Genoa Mills Shipbuilders, Ltd., is in an advanced stage, and it is expected will be launched shortly, and named Jean Steedman. The keel of a sixth has been laid, and when the sixth is completed, the contracts for six of these vessels, two for Canada West Coast Navigation Co., and four for subsidiary of allied interests under the management of H. W. Brown & Co., Vancouver, will be finished. All the vessels for Canada West Coast Navigation Co. are registered at Vancouver, and those for the subsidiary companies are to be registered at Victoria.

Regarding vessel building for the Dominion Government, Sir James Lougheed announced in the Senate, recently, that contracts had been awarded for the construction of two wooden auxiliary sailing vessels of about 2,500 tons each, at an approximate price of $230,000 each, for service between the Pacific and Atlantic coasts. These contracts have been awarded to Wallace Shipyards, Ltd., and Harrison & Lamonde Shipbuilders, Ltd., Vancouver, B.C., respectively.

Transfer of Canadian Vessels Stopped. —Following the recent regulation by the British Government stopping the transfer of the registry of British vessels, from ports inside, to ports outside, the United Kingdom, an order in council has been passed, at Ottawa, providing that no application for the transfer of the registry of a British ship from a port of registry in Canada to a port of registry outside of Canada, shall hereafter be made or granted without the written consent of the Minister of Marine and Fisheries.

Vessel Draught for Sault Ste. Marie Canals.—The upbound draught for vessels passing through the U.S. lock has been increased to 20¼ ft., and the draught for downbound vessels passing through either the N.S. or Canadian canals to 20½ ft. The upbound draught for Lake St. Clair remains as before, 20¼ ft., while the downbound draught has been increased 2 in.

Government Shipbuilding in the United States.

Maj.-Gen. Goethals, General Manager, U.S. Shipping Board, Emergency Fleet Corporation, announced, on July 13, that contracts for 348 wood ships have been let or agreed upon, with a tonnage capacity of 1,218,000 tons, at a cost completed of approximately $174,000,000. In addition, there are under negotiation contracts for about 100 wood ships. Contracts for 77 steel ships have been let or agreed upon, with a tonnage of 642,800 tons, at a cost of approximately $101,660,356. There are thus provided 425 ships of all sorts, with an aggregate tonnage of 1,860,800, at a cost of approximately $275,000,000, besides 100 more wood ships under negotiation. He will continue to let all contracts for wood ships (of design approved by the corporation's naval architect) which he can secure from responsible bidders.

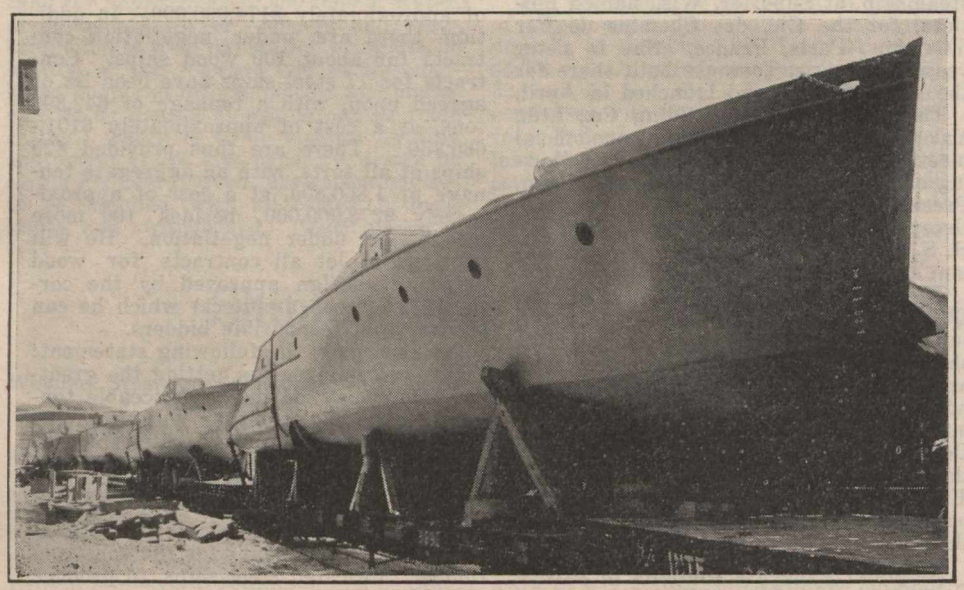
He also made the following statement: "My main reliance for getting the greatest amount of the most serviceable tonnage in the shortest time will be on the construction of fabricated steel ships of standard pattern. For that purpose I shall use to some extent the existing yards. On July 16, I shall offer contracts for the building of two plants (to be owned by the government) for the construction of fabricated steel ships, to produce 400 ships of an aggregate tonnage capacity of 2,500,000 tons within the next 18 to 24 months. For the building of these two yards and the construction of ships in them I shall offer as compensation to the agents who undertake the work a fee of approximately 6% of the total cost of the work, with rewards for savings on cost and for speed in delivery. Provision will be made for decreasing the fee to prevent unnecessary cost. The contracts will give the government the benefit of government-fixed commodity prices and will provide for cessation of work at any time, so that the appropriation may not be exceeded. Options will be given to the contractors to purchase the plants at arbitrated values on the completion of the work. The design of the ship and the plans of the yards are ready, the distribution of the work of furnishing the material and of fabrication is arranged.

"On July 16, I shall deliver to shipbuilders a general statement of the programme which I have long been maturing for commandeering ships now under construction for private account (such ships having an aggregate tonnage considerably in excess of 1,500,000 tons). The essence of this programme is to commandeer all such ships and expedite their construction by adding labor and cutting out refinements. By thus federalizing each yard, giving it government help and putting it on a speed basis, we shall produce its greatest efficiency. As fast as the berths are cleared each yard will be devoted to the production of a single type of tonnage."

On July 24, it was announced that, owing to differences between the Chairman of the U.S. Shipping Board, Wm. Denman, and the General Manager of the Emergency Fleet Corporation, Maj.-Gen. Goethals, the former had resigned, at President Wilson's request, and the latter's resignation had also been accepted. E. N. Hurley, Chicago, formerly Chairman of the Federal Trade Commission, has been appointed Chairman, U.S. Shipping Board, and W. L. Capps, Chief Constructor of the Navy, General Manager, Emergency Fleet Corporation.

Motor Boat Submarine Chasers Built in Canada.

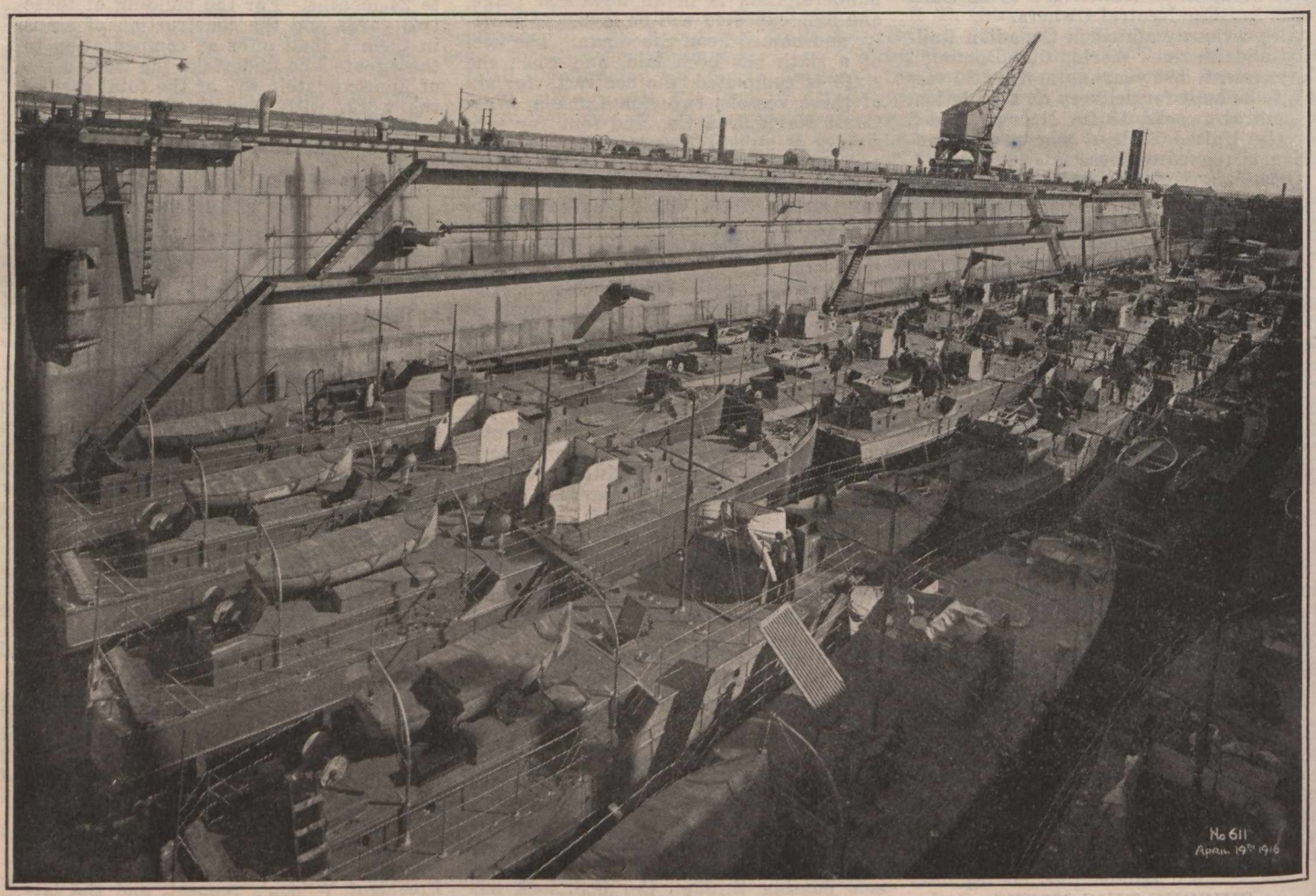
During recent months much has been heard of submarines and submarine warfare. Many devices have been made to combat the undearsea craft, one of the best and most successful being fast motor boats known as submarine chasers. Several hundred of these submarine chasers have been built in Canada within the past 12 months, 550 having been built at one shipyard. They are twin screw, gasoline driven boats, and practically of a new design. The dimensions are: length overall, 80 ft.; beam extreme, 12 ft.; depth at side, from top of rabbet to top of beam, 6 ft.



Five Submarine Chasers Loaded on Cars for Transport to the Atlantic Coast.

They are furnished with 2 standard right and left gasoline marine engines, having 6 cylinders 10 x 11 in. and developing 220 h.p. The engines are fitted a short distance aft of amidships. With this power plant a speed of 20 knots was easily exceeded. Fuel is carried in four tanks. The boats have fine lines and are very handsome looking, although sturdily built, and when running at high speeds leave a good clean wake. They are flush decked, with a small steering and chart room just forward of amidships, and also a small house or casing over the engine and state rooms. Forward of the steering shelter is a quick firing gun, while aft is a lifeboat about 14 ft. long.

The hulls are subdivided by 5 steel and 1 wooden, watertight bulkheads. In the fore peak is a store room for provisions, etc., also gasilen tanks, behind which is a crew space, with ample accommodation for 8 men, while aft are smaller but more comfortable quarters for 2 officers. The floors in the living quarters are covered with linoleum. The engine room floor, of white oak, is covered with light sheet metal. Hinged hatches and ladders lead into the store room and crew's quarters, also the engine and dining rooms. A companionway, with slide and steps, leads down to the staterooms. The keel and stem are of white oak, 1¾ in. frames, 2½ in. deck beams and 2¼ in. roof beams of the same material. The keelsons and planking are of yellow pine, bulkheads and cabin top of white pine decking and cabin sides of Oregon pine. The rudder is of the outboard balanced type and is made of manganese bronze, as are also the propellers. They are elaborately fitted out, being complete in every detail, and have electric light. Thy have proved very useful as patrol boats.

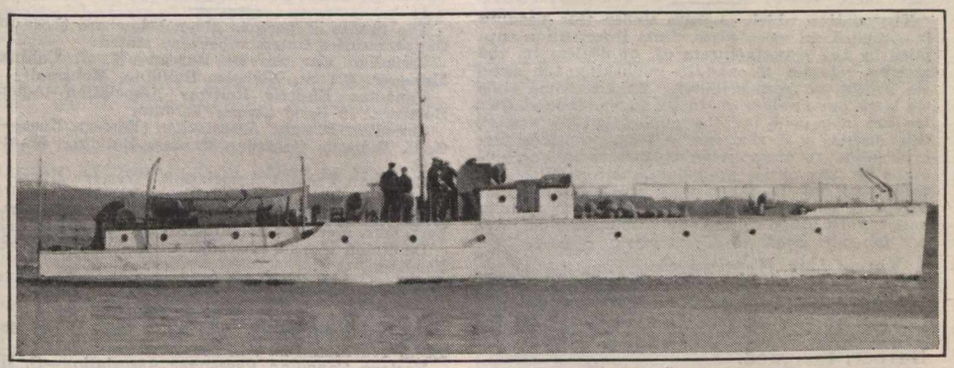


Fleet of Thirty Submarine Chasers in a Canadian Dry Dock.

Outturns of Grain Cargoes on the Great Lakes.

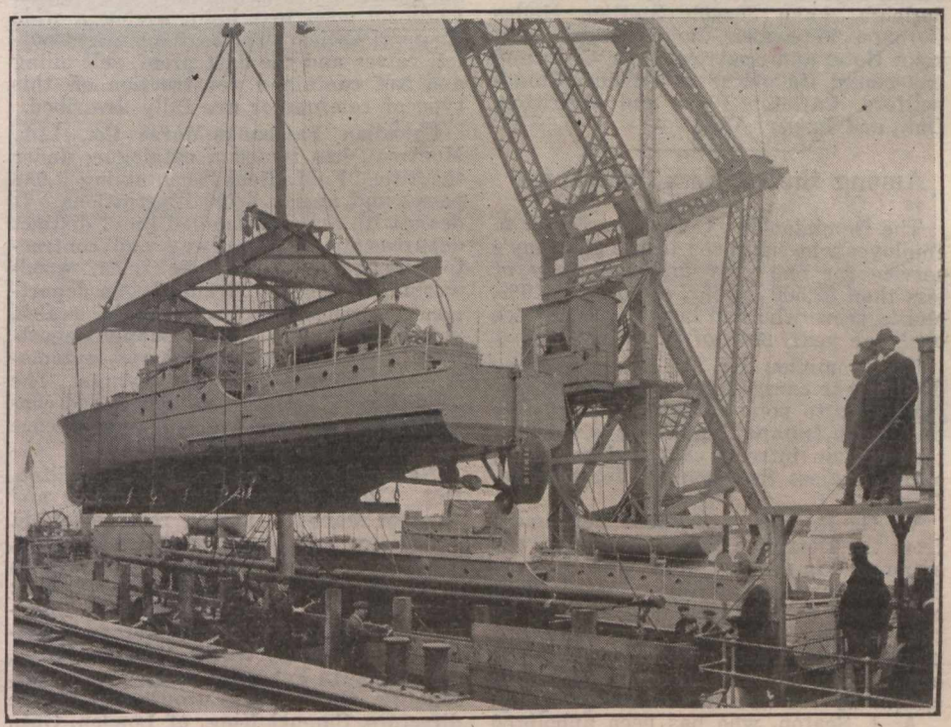
Canadian Railway and Marine World for May gave some details of the agreement arrived at between the Grain Clearance Corporation of Buffalo and its subscribers, relative to the methods of dealing with the outturns of grain cargoes in international business and on business purely between U. S. ports. The business between Canadian ports is covered by the regulations adopted by the Grain Commission for Canada. Under this agreement the contribution of the subscribing vessels was at the rate of half a bushel per 1,000 bush. from and to all ports. To provide funds for operation vessels were to pay $200 on first arrival with grain cargo, and the rates of 12c and 24c under the previous year's contract were increased to 15c and 30c respectively. During this season, the run of shortages has been tremendous, while the over runs have been in comparison infinitesimal. In view of this, the Grain Clearance Corporation issued a circular to its subscribers, June 28, as follows:

"At a conference held at Buffalo, N.Y., June 28, between the Grain Clearance Corporation and representatives of the United States and Canadian carriers subscribers to our 1917 contract, the results of this season's business were laid before them, showing that the shortages were running more than a bushel to the thousand and that the shortages so far have amounted to approximately $77,377.20, as against overruns of only $8,846.89; and that the unpaid shortage balances amounted to approximately $16,000, with the only uncollected assets the amount due from the Canadian shipping elevators at Fort William and Port Arthur, on their allowance of one-sixth bushel to the thousand, which would in all probability fall short of meeting the unpaid losses anywhere from $1,000 to $5,000; and, therefore, as the heavy ratio of losses was continuing, the company could not continue business with fairness to its subscribers. It was the sense of the conference that the Grain Clearance Corporation should discontinue its business and wind up its affairs, carrying out its contracts with reference to ships loaded before midnight June 30, so far as its assets and collections would enable it to do. The directors met later in the day, and after consideration of the reports and the sense of the conference, resolved that the Grain Clearance Corporation pay no further shortages or losses until after all shipments loaded prior to midnight, June 30, shall have been received and unloaded and the total amount of shortages and losses of the corporation be ascertained; and that the managers and officers of the corporation be directed to terminate its business and give notice of such termination and withdrawal of its contracts to subscribers and other parties in interest. Accordingly, you are hereby notified that while we regret such action is necessary, we withdraw our contract with you so far as boats loaded after June 30 are concerned, and that we now discontinue business and will wind up the affairs of the company as soon as possible, settling the unpaid accruing shortages so far as our assets will permit, or paying pro rata in case the assets are not sufficient to pay in full."



A Submarine Chaser on the St. Lawrence River.

On Canadian business, the report to the Grain Commission covering business between June 11 and 25, shows there were 138 cargoes unloaded at all ports, including Buffalo, and only 22 overruns. The Dominion Marine Association has taken the matter up with the Grain Commission to see if it has any explanations or suggestions to offer in view of the extraordinary situation.



Loading of Submarine Chaser on Transport for England.

The Beaver Tow Boat Co., Ltd., has been incorporated under the British Columbia Companies Act, with $15,000 authorized capital and office at Vancouver, to own and operate steam and other vessels, to carry on a general tugboat business, and to transport mails, passengers and merchandise.

Wireless Telegraph Operators on Pacific Coast Vessels.

The board of conciliation appointed to enquire into the complaint of employes of Marconi Wireless Telegraph Co. of Canada, engaged on vessels operating on the Pacific coast, reported recently. Twenty-three operators were affected; of these 7 were paid $30 a month; 8, $35; 6, $40; 1, $55; and 1, $60; the two latter being engaged on trans-Pacific vessels, where a minimum of $40 a month obtains. The employes complained that the salary was insufficient, that there was lack of proper accommodation on the coastwise vessels, that the annual holiday and the uniform allowance has been discontinued, and that there was unfair discrimination by the company's Pacific coast manager. They claimed that the minimum wage should be $60 a month rising by annual increments to $80. J. H. Lauer, General Manager, offered a minimum wage of $40 a month, with annual increases up to $60.

The board considered that the evidence fairly established the employes' claims, with the one possible exception of unfair discrimination by the local manager, on which it would express no opinion. It also considered the amounts of monthly pay suggested by the employes as excessive, and those suggested by the company, low, the revenue being satisfactory and the margin of profit a fair one, though it contended that the financial position of a company should not be the deciding factor in arriving at a fair wage scale. It was unanimously recommended that from May 1, 1917, the minimum wage paid be $45 a month, after a year of service, $50; after 2 years, $55; and after 3 years, $60; that the company investigate the accommodation furnished on the vessels and see that the terms of the contract are adhered to and that complaints of poor accommodation receive prompt attention; that after a year of service each employe be granted 2 weeks holiday in each year with full pay, or in lieu thereof, 2 weeks pay extra; that each employe be granted $30 annually for

uniform, payable half yearly, and that there be no discrimination against union or non-union men, and also that an employe wishing to make a complaint be entitled to be represented by whomsoever he may choose to appoint.

Telegraph, Telephone and Cable Matters.

H. Bott, formerly of the C.P.R. Telegraphs staff, Toronto, has been apopinted Inspector at Edmonton, Alta.

The Great North Western Telegraph Co.'s employes met in Toronto, July 23, and decided to apply for the apopintment of a conciliation board to enquire into the demands for improved working conditions and increased wages.

W. Marconi, G.C., V.O., who is serving in the Italian Army, and who is at present attached to the Italian mission to the U.S., has been given the honorary degree of Doctor of Science by Columbia University.

S. Hutchison, who died at Winnipeg recently, was appointed local manager, Great North Western Telegraph Co., there, in 1890, and on the inauguration of the Grand Trunk Pacifiic Telegraph Co., was appointed city manager there, later being transferred to Prince Rupert, B.C., returning to Winnipeg in Aug., 1916, as circuit manager, which position he held at the time of his death.

The Great North Western Telegraph Co. has opened offices at Lake St. Joseph Hotel, Little Metis Beach, and Pointe au Pic, Que.; Alderdale, Brent, Cardinal Canal. Crystal Beach, Dwight, Field, Helderleigh, Lake Joseph Station, Nelles Corners, Petewawa Camp, Royal Muskoka Hotel and Sparrow Lake, Ont.; and has closed its offices at Athens, Campbellford, Carleton Place and Merritton, Ont., and Jasper, Alta.

Among the Express Companies.

The Dominion Ex. Co. gave recently to employes who had been in the company's service for one year and on salary of less than $2,500 a year, a bonus of 10%, and to those who had been in the service over one year, 20% of their salaries.

The Dominion Ex. Co. is reported as declining to carry shipments of intoxicating liquor to points outside the province of Alberta from within, and it is reported that certain intrests contemplate taking action against the company for such refusal.

V. G. R. Vickers, whose retirement from the Dominion Ex. Co.'s service was announced in our last issue, was, on June 30, presented with a silver service, with a diamond pendant for Mrs. Vickers, by the eastern division officers and employes, a gold watch and fob by the western division officers and employes, and a cheque by the directors of the company.

A. J. Seaton, who has been appointed Assistant Superintendent, Eastern Division, Canadian Ex. Co., Montreal, entered the company's service in 1886 as clerk at Galt, Ont. From 1887 to 1901 he served as train messenger; from 1901 to 1908, joint agent, Canadian and American Ex. Cos.; 1908 to 1912, route agent, Eastern Division, Canadian Ex. Co.; and 1912 to June 16, 1917, Assistant to Superintendent, Eastern Division, same company.

Z. N. Middleton, agent, Canadian Northern Ex. Co., Vancouver, B.C., was defendant in an action at Chilliwack, B.C., July 11, by Jas. Cartnell and several other valley fruit growers, for the recovery of the difference between the price of a carload of prunes and the price realized by auction sale in Winnipeg, after the carload had been refused by consignees. For the plaintiffs it was stated that Z. N. Middleton represented that he acted as an agent for the consignees, and for the defence it was claimed that he acted simply in his capacity as agent for the express company, and in the course of his business had found a market for plaintiffs' fruit.

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.

Vapor Car Heating Co., Inc., Chicago.—A. D. Bruce, heretofore in charge of purchases and supplies, has been elected Secretary and Comptroller, vice A. P. Harper, resigned.

Canadian Ingersoll-Rand Co., Ltd., Montreal, has issued Bulletin E-300-A, illustrating power driven, single stage, straight line air compressors, designed for motor or belt drive and furnished with a special short belt drive where floor space is a consideration. They are intended for use in industrial and mining plants where units of 950 cu. ft. displacement and under a minute are required. Eighteen sizes are built giving a wide range of choice. The leaf inlet, and outlet, valves and the dust proof, self oiling and self contained construction of this type of compressor are fully described.

Canadian Fairbanks-Morse Co., Ltd., Montreal, has issued a catalogue, under the title "F.-M. Book," containing 1,048 pages and nearly 4,700 illustrations. It deals with articles handled in 12 distinct departments, viz.: railway and contractors department, machine tools, woodworking machinery; transmission department, engines, electrical goods, scales, valves and steam goods; supply department, safes and vaults, pumps, automobile accessories and motor fittings. The book is very completely indexed and contains a considerable amount of reference information in tabulated form.

National Steel Car Co., Ltd., Hamilton, Ont. Basil Magor, Vice President and General Manager, having resigned, J. E. McAllister, consulting engineer, Toronto, has been appointed to succeed him, with the same title. The other officers are: President, Sir John Gibson; Vice President, Sir Henry Pellatt; Secretary-Treasurer, T. O. Scott; Works Manager, B. B. Hamilton. In February last, owing to Mr. Magor's absence in Europe, one of the directors, Samuel King, of London, Ont., accepted the post of Managing Director temporarily ,and is still acting in that capacity(but he hopes to be relieved of the responsibilities at an early date.

The Pennsylvania Rd. has given the Westinghouse Electric & Manufacturing Co. a contract for furnishing the electrical equipment for the hotel being erected at 7th Ave. and 33rd St., New York, N.Y., which will, it is said, when completed, be the largest hotel in the world, containing 2,200 rooms, each with a bath. The hotel is being erected by the Pennsylvania Rd. and will be operated under the Statler management. The electrical equipment will consist of 44 ventilating motors, with a total capacity of over 800 h.p.; 7 pump motors, with a capacity of over 200 h.p., and an additional number of motors for refrigerating machinery. The contract also includes three 500 k.w. rotary converters, transformers and switching equipment, and six 250 kva. transformers for the substation, to which alternating current will be supplied from the railroad company's power house.

Transportation Associations, Clubs, Etc.

The names of persons given below are those of the secretaries unless otherwise stated:

Canadian Car Service Bureau—W. J. Collins, Manager, 401 St. Nicholas Building, Montreal.

Canadian Electric Railway Association—Acton Burrows, 70 Bond Street, Toronto.

Canadian Freight Association (Eastern lines)—G. C. Ransom, Canadian Express Building, Montreal.

Canadian Freight Association (Western lines)—W. E. Campbell, 805 Boyd Block, Winnipeg.

Canadian Railway Club—J. Powell, St. Lambert, Que. Meetings at Montreal 2nd Tuesday, each

Dominion Marine Association—F. King, Counsel, Kingston, Ont.

Canadian Ticket Agents' Association—E. de la Hooke, London, Ont.

month, 8.30 p.m., except June, July and August.

Canadian Society of Civil Engineers—C. H. McLeod, 176 Mansfield St., Montreal.

Eastern Canadian Passenger Association—G. H. Webster, 54 Beaver Hall Hill, Montreal.

Engineers' Club of Montreal—R. W. H. Smith, 9 Beaver Hall Square, Montreal.

Engineers' Club of Toronto—R. B. Wolsey, 94 King Street West, Toronto.

Express Traffic Association of Canada—C. N. Ham, Montreal.

Great Lakes and St. Lawrence River Rate Committee—James Morrison, Montreal.

Hydro-Electric Railway Association of Ontario—T. J. Hannigan, Guelph, Ont.

International Water Lines Passenger Association—M. R. Nelson, New York.

Niagara Frontier Summer Rate Committee—James Morrison, Montreal.

Nova Scotia Society of Engineers—A. R. McCleave, Halifax, N.S.

Quebec Transportation Club—A. F. Dion, Quebec.

Shipping Federation of Canada—Thos. Robb, Manager, 42 St. Sacrament Street, Montreal.

Ship Masters' Association of Canada—Capt. E. Wells, 45 St. John Street, Halifax, N.S.

Toronto Transportation Club—W. A. Gray, 143 Yonge Street, Toronto.

Transportation Club of Vancouver—H. W. Schofield, 553 Church Street, Vancouver, B.C.

Twin Cities Local Freight Agents' Association—E. J. Travers, Fort William, Ont.

Western Canada Railway Club—Louis Kon, Box 1707, Winnipeg. Meetings at Winnipeg 2nd Monday each month, except June, July and August.

Winnipeg Traffic Club—James Gehrey, Bannatyne Avenue, Winnipeg, Man.

Vessel "Accidents" on the Great Lakes.—It is announced that U.S. Government agents are investigating some recent casualties to U.S. vessels on the Great Lakes, as the view is held that they were caused by the enemy. They have mostly occurred in the neighborhood of the Sault Ste. Marie canals, and taken in conjunction with a number of cases of tampering with locks and buoys, it is believed that some attempts have been made to block the canals and thus suspend traffic. The reports state that some persons when pursued have escaped to the Canadian side, but that Canadian assistance has been sought and an agreement is to be made under which fugitives may be pursued across the boundary line in order to avoid delays due to extradition proceedings.

The United States Railroads War Board has created a subcommittee consisting of vice presidents of the different express companies to coordinate the work of the companies with the general probnotes coming due July 18, and will have the same collateral as under that issue, consisting of first mortgage bonds guaranteed principal and interest by the Dominion of Canada or Canadian provincial governments."