

# Canadian Railway and Marine World

November, 1919

## The Canadian Engineers' First Tramways Company's Work in France.

By F. E. Collinson, Mechanical Engineer, Motive Power Department, Grand Trunk Pacific Ry., Transcona, Man., formerly Lieutenant, Canadian Engineers, and Adjutant, Canadian Engineers First Tramways Co.

Among all the various units engaged on railway work in France, the Canadian tramways companies did their share with the best, though their work is not very generally known and they are often confused with the "Railway Troops," which were army troops, while the tramways companies were throughout their history Canadian Corp Troops.

The 1st and 2nd Tramways Companies, Canadian Engineers, were among the few units which were authorized, formed, worked, and finally were demobilized in France, and never existed as units in any other place than the forward area. The early history of the first company from its inception in May, 1916, was briefly as follows: On May 19, 1916, the Composite Pioneer Company, Canadian Corps, was formed to construct and operate light railways in the Ypres sector and the personnel was drawn from the 1st, 2nd, and 3rd Canadian Pioneer Battalions and the Canadian Overseas Railway Construction Corps, the total number being approximately 280, all ranks, under Capt. D. H. Williams; Major Goldie, D.S.O., being Field Engineer, and Major R. P. Rogers being Assistant Field Engineer.

The company built and operated about 14 miles of 60 c.m. track, and the first power for operating was two small locomotives salvaged from Dickebusch Lake. On Sept. 3, 1916, the company left Vlamertinghe and moved south to Albert, with the Canadian Corps, for the Somme battle, and did good work on the lines from Albert to Becourt Wood, and Pozieres, working with tractors up to Gordon dump, and from there the trains were taken forward by horse or mule power until sufficient ballast became available to make the track fit to use tractors forward of that point. The company left the Somme on Oct. 26, 1916, and returned to the Lens front, locating at the Bois-de-la-Haie, and extending the line, that already ran to Carency, forward to Souchez and across Zouave Valley to Dingwall tunnel at the west foot of Vimy Ridge. On the return from the Somme a section of the company, under Lieut. S. F. Workman, proceeded to Bois-de-Bray to form a second company, which eventually became the Canadian Engineers 2nd Tramways Company.

Before the Vimy show in April, 1917, the average daily tonnage hauled was about 125 tons, but after the taking of the ridge the tonnage steadily increased, when the new lines were pushed through.

Construction was carried on steadily throughout 1917, and the ground won in the battles of Vimy Ridge, Hill 65, Avion, and Hill 70, was covered with 60 c.m. tracks, so that by the end of the year, by which time the 2nd Tramways Co. was located to the north of the 1st Tramways Co., the Canadian front was better served by light railways than any

other sector on the British front, and all classes of traffic were handled.

About June, 1917, the transport of guns was inaugurated, and all sizes from 18 pr. to 8 in. Howitzers were moved; a number of batteries choosing positions which were entirely dependent on the tramways for getting in their guns, ammunition, and all other supplies.



Lieutenant and Adjutant F. E. Collinson.

After the battle of Vimy Ridge, the company's headquarters were located at Lens Junction, between Souchez and Ablain St. Nazaire, and remained there for over 15 months, and with the advantage of a permanent location the company got forward area railroading nearly to a peace basis; all tracks were heavily ballasted, steel renewed, road crossings fixed up, grades revised and the control system made thoroughly efficient, though the whole territory was exposed to shell fire at all times, and forward of Vimy Ridge, operation was only possible at nights.

The British system of handling trains on the single tracks was from a central control, similar to dispatching on Canadian railways, whereas the 1st Tramways Co.'s system in France was station to station control, similar to the English railway system of control from one signal cabin to the next.

Before the end of 1917, due in large measure to Major R. P. Rogers' energy

in getting business for the tramways, the company was handling close to 700 tons, and making over 2,000 ton miles daily.

Traffic was worked as far as the tramways' yards at Lens Junction by the Army Light Railway, with steam and from there the company worked it forward in army cars by tractor. The three types of tractor used were:

20 h.p. simplex, capable of handling.....	15 tons
40 h.p. simplex, capable of handling.....	30 tons
45 h.p. petrol electric, capable of handling..	45 tons

The army cars generally were double bogie flats and gondolas, with a tare of 2½ tons and a capacity of 10 tons. In addition the company had for local traffic on its own lines a considerable number of small springless cars, capacity 1½ tons, and captured German cars with a capacity of 5 tons.

Troops movements were next undertaken, and the passenger traffic in the winter of 1917-1918 grew to considerable dimensions, and on a number of occasions, two battalions were moved close up to the front line and 2 battalions brought out in a night; and regular night trains were run to take working parties to and from their work on the defense lines; the regular schedule handling about 1,200 men nightly. Hospital trains were also run on a regular schedule from the forward dressing stations.

The company's organization at this time consisted of a headquarters at Lens Junction, including tractor repair sheds, blacksmiths and carpenters shops, quartermasters stores, etc., with the operating department, under the Chief Traffic Officer, also at headquarters. The construction department was divided into three sections, which were quartered at Whiz-Bang corner, in Lievin, in Cite de Caumont, Angres, and at Kootenay Camp, on the east face of Vimy Ridge. The two latter camps, though pretty well forward, were lucky locations, but at Whiz-Bang the section lived constantly alongside the infantry in support, and on two occasions practically the whole section became casualties, through shell fire. Trains could be operated as far as Lievin in daylight, and a considerable number of batteries on this line could be served by day, but forward of this and the whole of the territory south of Givenchy could only be served at night. The record for one night was 37 trains going forward from Lens Junction, and the average was about 25 trains.

In Nov., 1917, an establishment was authorized, and the company was given the name of No. 1 Section, Canadian Corps Tramways, but in Mar., 1918, a complete establishment was approved and the name changed to Canadian Engineers, 1st Tramways Company, all attached personnel was then transferred to the engineers, and the company brought up to establishment of 20 of-

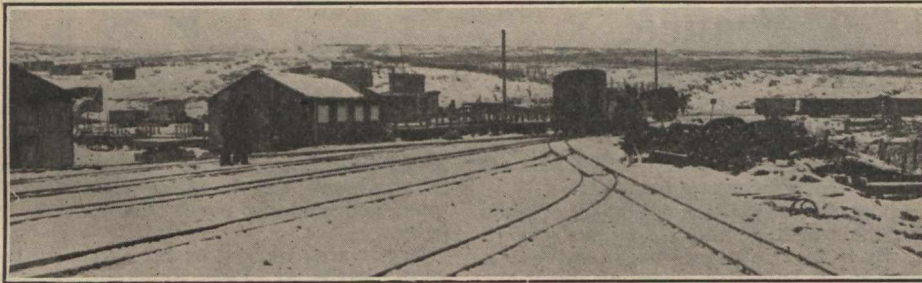
Officers and 342 other ranks, and was re-organized into headquarters and four sections, under the command of Major R. H. Winslow. Road transport was supplied to the company, consisting of 4 motor lorries, 2 motor cars, 23 horses, and 7 wagons, with 21 Canadian Army Service Corps personnel. In the spring of 1918, the company, in addition to its regular work, reclaimed and cultivated a

was reached in the afternoon. By the 14th the company had the line repaired up to Rosieres, a distance of about 6 miles, had acquired tractors to operate it, and had started construction of a new line through Vrely, towards Meharicourt. Railway troop battalions and engineer battalions were also working on construction, and by the 19th the company was operating about 14 miles of track,

throughout the advance, and it is believed that the Canadians were the only corps that were served by light railway through this period. To cope with the work two Canadian infantry works companies were attached to the tramways companies, the 4th C.I.W. Co., operating with the 1st Tramways throughout. While at Wancourt Major Winslow was unfortunately wounded while reconnoitering up forward, and later died of his wounds. Capt. S. F. Workman took over the command of the company.

The 2nd Tramways jumped ahead of the 1st just previous to the attack on the Canal du Nord and followed up this advance, moving forward from Hende-court to Inchy, and then to Sailly, on the outskirts of Cambrai; while the 1st Tramways undertook the operation and improvements of the lines behind it and followed up at each successive move.

On the old settled front the army light railways acted as the connecting link between the standard gauge and the tramways companies in the forward areas, but in the advance of 1918, the standard gauge kept so well up that the tramways



Lens Junction Yard.

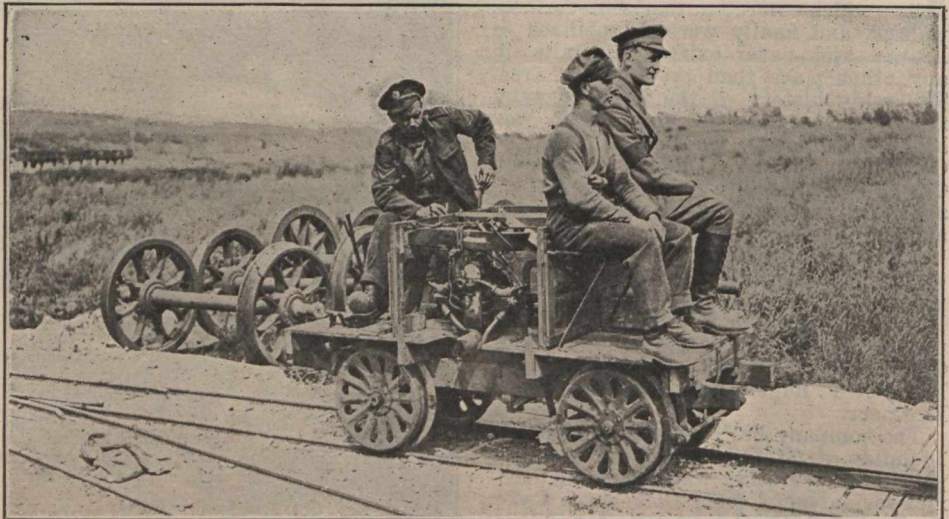
This yard was located on the old French metre gauge station grounds, and the line followed the metre gauge right of way forward to Cite de Caumont. A petrol electric tractor is shown switching in the yard. The black line running up the hill in the background is the Y of the old French Bajolle line.

was the largest farm of any in the Canadian Corps.

Gas warfare was extensively carried on in the spring of 1918, and a heavy traffic in gas projectors was handled, the tramways company also undertook cloud gas work. In this latter case the gas cylinders were loaded on cars, and worked up forward, and when all the trains were delivered just behind the front line, the cylinders were electrically connected and detonated, releasing the gas from about 1,500 cylinders at once.

Another phase of the company's activity was providing cars, from which 18 pr. guns could be fired. Two of these were made up at the company's shops, from steel army gun cars, and were known as 'International No. 1 and 2.' They were turned out at nights with a 20 h.p. tractor, and a small car for ammunition, for the use of sporting field artillery batteries, which provided gun crews and went away up forward, and from just behind the front line spent the night harassing the Hun, moving to avoid retaliation and retiring before daylight, leaving no trace.

When the Canadian Corps moved south in April, 1918, the company remained on the old front, with the 8th and 18th British Corps until July, when it moved by rail to the Scarpe and rejoined the corps, and maintained and operated 30 miles of lines on the north side of the river, with



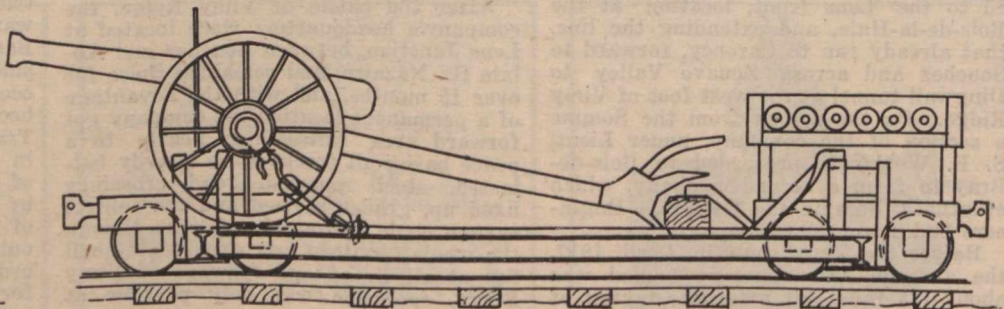
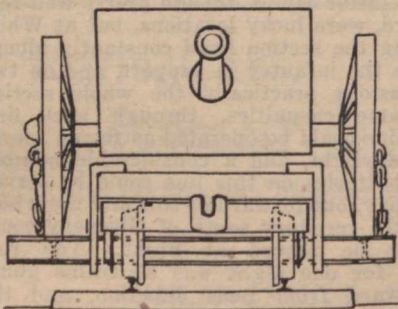
The Adjutant's Speeder.

This inspection car, known as the "Mechanical Bug," was built at Lens Junction from salvaged material. The Douglas motor cycle engine was found in a shell hole, other parts were obtained from the remains of a reaping machine and a French automobile, and the counter shaft from the ruins of Ablain St. Nazaire sugar refinery.

when orders were received to pull out.

After a 10 days rest at Boves, the company was ordered to rejoin the Canadians at Arras, and reached there by standard gauge on Sept. 2, and located headquarters at Wancourt. The 2nd

companies were handling ammunition direct from the standard gauge to the ammunition dumps. During Sept., 1918, the average daily tonnage was 723 tons and 4,003 ton miles, rising in October to 1,243 tons and 7,268 ton miles, with a



International No. 1 Gun Car, converted by Canadian Engineers, First Tramways Co., for 18 in. Moving Guns, on 60 c.m. Light Railway.

70 acre farm at Leas Junction, which headquarters at Artillery Corner near Anzin.

On Aug. 10, 1918, the company received orders to move to Amiens on Aug. 11, and left Anzin by road to entrain on the standard gauge, reaching Longeau on Aug. 12. From there it was a 15 mile march to Cayeux-en-Santerre, which

Tramways Company was then at Arras and had already followed up the corps across the old no-man's land, and with the help of engineer battalions, had joined up to the German steel and repaired the track almost to Vis-en-Artois.

From this time until the armistice, the two tramways companies worked unceasingly to keep railhead up with the corps

record for one day of 1,782 tons and 10,325 ton miles.

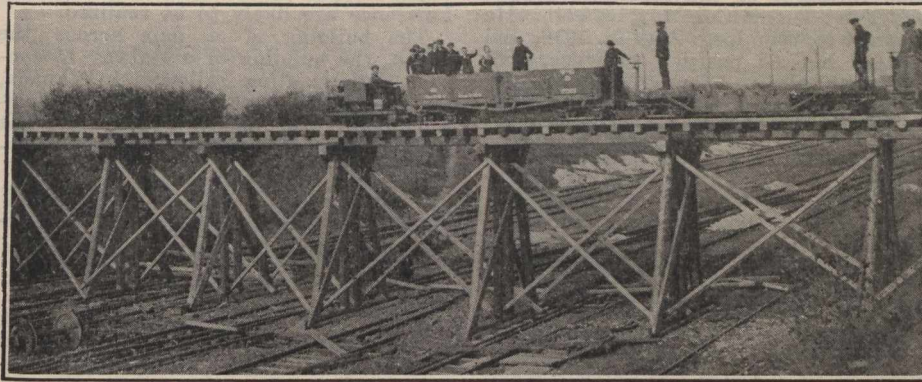
On Oct. 19, 1918, the 1st Tramways Co. moved up to Oisy-le-Verger, at which point the Hun 60 c.m. tracks ended and behind this was the metre gauge zone, though the metre gauge through a part of this zone was fitted with a third rail for 60 c.m. gauge. On Oct. 18 and 19 the

Huns retired very quickly for about 16 miles to the outskirts of Denain, and on the morning of Oct. 20 the 1st Tramways Co. got orders to push ahead by road to Roelux, 4 miles West of Denain. A hard march in heavy rain brought the company into Roelux 30 hours after the Huns had blown up the cross roads, and

the street car lines were therefore followed round the north of Valenciennes through Buray-sur-Escant, and Thiers, and thence standard gauge was followed to Vicq and a new line 2,500 yards was graded and laid to connect to the street car tracks on the Valenciennes-Mons road, east of Quarouble.

Between Sept. 2 and Nov. 11, 1918, in 70 days, the tramways companies repaired, laid, or converted to 60 c.m., 50 miles of main line, and approximately as much in branch lines, keeping up with the corps throughout, with a move on an average of once every 5 days, and while so doing, handled a daily average of 1,000 tons.

After the armistice the company prepared to march into Germany with the Canadian Corps, but when it was finally decided that only the 1st and 2nd divisions were to go, the company was transferred to the 1st Army Troops, and was sent back to the devastated area on the old front, to work salvaged material from that area for shipping to the base. The move from Valenciennes was made by road, a three days march bringing the company to Henin Lietard, east of Lens, on Dec. 5, 1918. After working in that area for a short time, the company returned to the old territory and located east of Souchez, as the Lens Junction yards and camp had been demolished. The company worked in that area from Dec. 14, 1918 until Jan. 24, 1919, when relieved by the 231st Forward Light Railway Company, and proceeded to Etaples,



**Roelux Trestle.**

Built in two days, to carry a light railway over a standard gauge yard. On the trestle are a 20 h.p. Simplex tractor and two classes of 10-ton army cars. Every frog and switch in the standard gauge yard had been blown up by the Huns.

evacuated the town, and work was commenced at once to work back, closing in the metre gauge tracks to connect with 2nd Tramways Co.'s tracks, which was done in 3 days. This was the first place where the Hun had left civilians behind and the company had a great welcome.

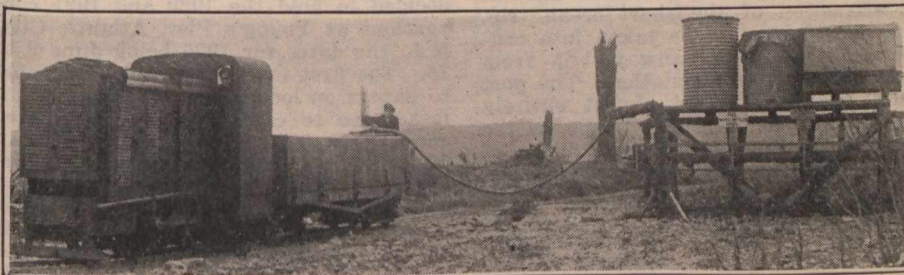
The big obstacle ahead was the bridge over the standard gauge cut, 6 tracks wide, which was completely demolished. A diversion had to be made, and a trestle put across, and to do this, all bridge timber had to be salvaged from the surrounding country, as supplies could not be brought up from the rear. However, in two days sufficient had been collected, and in 23 working hours, from 6 a.m. on Oct. 24 to 5 p.m. on Oct. 25, a trestle 130 ft. long, with 7 bents, 20 ft. high, was constructed, under the supervision of Lieut. C.E.V. Daveney, C.E., and the railhead was into the western suburbs of Denain the same night.

By Nov. 3, the end of steel was at the western suburbs of Valenciennes, while the Hun was just beyond the eastern edge of the town, and the officers detailed for reconnaissance of a way through Valenciennes were carrying on their work with the front line infantry. To get track through this sector, metre



**Lievin.**

The main line through the town. The construction sub-section men were billeted in the cellars in the foreground.



**First Tramways Company's Water Train, Loading at Souchez Dump.**

This train ran every afternoon from Souchez to Lievin and Angres, to supply batteries and other troops with water. Vimy Ridge is seen in the background, across Zouave Valley.

where the unit was demobilized on Feb. 1, 1919; the personnel returning by drafts to the engineers' reserve battalions at Seaford, Sussex, England, and thence to Canada.

**Canadian Engineers Tramways Company—War Establishment.**

	Major	Capt.	Lieut.	W.O.	S.-Sergt.	Sergt.	Corp.	2nd Corp.	L.-Corp.	Sapper
Co. Headquarters										
O. commanding.....	1									
O. i.c. construction ..	1									
O. i.c. operation.....		1								
Adjutant .....			1							
Co. sergt. major.....				1						
Co. Q.M. sergt.....					1					
Ord. room sergt.....						1				
Clerks and drafts- men .....								2	2	1
Transport (trades- men) .....									1	2
Tailor, shoemaker, barber, etc. ....										4
Cooks .....									1	3
Postal, medical and gas n.c.o.'s .....										3
Batmen .....										4
	1	2	1	1	1	1	2	3	4	14
Total, 30.										

gauge lines, street car tracks and standard gauge tracks were closed in to 60 c.m. gauge, and in addition, Hun 60 c.m. steel and British 20 lb. steel was shipped forward and French steel salvaged in the surrounding country. Owing to the inundations and the demolition of the bridges into Valenciennes a grade could not be made quickly into the town and

On Nov. 11, 1918, our advance parties were at Quievrain, the first town on the Belgian side of the border, and the company had located billets and was preparing to move there, when orders were received that steel was not to be pushed ahead of Quarouble, and at that point on the Mons road the war activities of the tramways companies ceased.

Work Shop Section.			
Shop foreman.....	1	..	..
Blacksmiths .....	1	..	3
Carpenters .....	1	..	3
Mechanics .....	2	..	2
Painters .....	3	..	1
Car repairers .....	..	..	2
Laborers .....	..	..	5
Cooks .....	..	..	1
Transport .....	..	..	1
Total, 23.	1	2	2

Signal Section.			
Linemen and operators .....	1	1	1
Total, 13.	1	2	1

Attached.			
Paymaster .....	1	..	..
Medical officer .....	1	..	..
C.A.S.C. Horse Transport .....	..	..	11
C.A.S.C. Motor Transport .....	..	..	10
Total attached, 23.	2	..	21

Co. Headquarters

	Major	Capt.	Lieut.	S.-Sergt.	Sergt.	Corp.	2nd Corp.	L.-Corp.	Sapper	Total
O. commanding..	1	..	..	..	..	..	..	..	..	1
Supt. construction	1	..	..	..	..	..	..	..	..	1
Section staff sgt.	..	..	1	..	..	..	..	..	..	1
Clerks .....	..	..	..	..	..	1	..	..	..	1
Stretcher bearer..	..	..	..	..	..	..	..	..	..	1
Mess cook .....	..	..	..	..	..	..	..	..	..	1
Batmen .....	..	..	..	..	..	..	..	..	..	2
Total	1	1	1	..	..	1	..	..	..	5

Construction Sub-Section.			
Supt. of track.....	1	..	..
Track foreman.....	..	2	..
Asst. track foreman .....	..	..	..
Trackmen .....	..	..	25
Surveyor .....	..	..	1
Storeman .....	..	..	1
Carpenter .....	..	..	1
Transport .....	..	..	1
Cook .....	..	..	1
Batman .....	..	..	1
Total	1	2	2

Operating Sub-Section.			
Traffic supt.....	1	..	..
Yard foremen.....	..	1	1
Train crew foreman .....	..	1	..
Tractor drivers.....	..	1	1
Conductors .....	..	1	1
Brakemen .....	..	..	3
Checker .....	..	..	1
Control men.....	..	..	4
Mechanic .....	..	..	1
Cook .....	..	..	1
Batman .....	..	..	1
Total section.....	1	3	1

Summary of company, including attached .....	1	8	13	6	19	17	34	28	259	385
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**Editor's Note**—F. E. Collinson was born at Halifax, Eng., Apr. 28, 1883, and entered railway service Feb. 13, 1901, since when he has been, to Apr. 28, 1904, apprentice, North Eastern Ry., Gateshead-on-Tyne, Eng.; May, 1904 to Mar., 1905, Assistant Foreman, Motor Car Shop, same road, Darlington and York, Eng.; May to Nov., 1907, Locomotive Foreman, same road, Botanic Gardens, Hull, Eng.; Nov., 1907 to Feb., 1908, Locomotive Foreman, same road, Dairycoates, Hull, Eng., Feb., 1908 to June, 1911, Locomotive Foreman, same road, Tweedmouth, Eng.; June, 1911 to May, 1912, Inspector for the Crown Agents for the Colonies, Birmingham and Manchester, Eng.; May, 1912, to June, 1915, Mechanical Engineer, Grand Trunk Pacific Ry., Transcona, Man.; June, 1915, to Dec., 1916, Mechanical Engineer and Chief Draftsman, same road, Transcona, Man. He enlisted as a private in the 203rd Battalion, Feb. 19, 1916, and became subsequently Sergeant Major, then Lieutenant and

then Assistant Adjutant in that battalion. He joined the 44th Battalion in France, June 19, 1917, and was with C. Company until Sept. 30, 1917, after which he was Battalion Transport Officer. He joined the Tramways, Jan. 19, 1918, as Traffic Officer, transferred to the Canadian Engineers, Mar. 4, 1918, and became Adjutant of the Canadian Engineers' First Tunnel Co., May 13, 1918. He returned to Winnipeg, May 5, 1919, and resumed his old position as Mechanical Engineer, Motive Power Department, Grand Trunk Pacific Ry., Transcona.

### Project for All Rail Connections Between Canada and Newfoundland and Damming of Belle Isle Straits.

Attention is being directed to a project, which it is claimed is possible from an engineering point of view, the object being to dam the Strait of Belle Isle, and build a railway through Labrador and across the dam to Newfoundland. The proposal was originally made many years ago, but nothing has been heard of it for the last 20 years or so. It is reported that Dr. Pelletier, Agent General for Quebec in London, Eng., and Z. A. Cannon, M.L.A., Quebec, have been in Ottawa recently discussing the matter with Dominion Government officials and that a plan will be submitted for consideration shortly. The project is being reviewed, it is said, by English capitalists, who are prepared to invest considerable money.

The Strait of Belle Isle is about 9 miles wide and comparatively shallow, so that, in the light of the construction many years ago of the Plymouth breakwater in England, and in more recent years of the railway construction along the Florida Keys, from an engineering point of view the building of a dam to connect the Labrador coast with Newfoundland is claimed to be quite within the region of possibilities. The railway projected in connection with the dam, would run along the north shore of the St. Lawrence River—probably in continuation of the Quebec and Saguenay Ry., to the starting point of the dam, across the dam to Newfoundland, and thence to some point on the north coast of the island, where it is projected to establish a port for trans-Atlantic trade. Such a port would undoubtedly be the nearest one to Europe, but as against the attraction of the short ocean trip, there would have to be taken into consideration the long railway trip from present centers of population. The port would have to depend almost entirely for its trade on passenger traffic, as the long railway haul from the sources of production to the port could not compete, in rates with the railway hauls to the ports at present existing.

Another consideration put forward as an argument for the building of the dam, is its possible effect on the climate of the Maritime Provinces, and the St. Lawrence Valley. It is claimed that the building of the dam would deflect the Arctic current from the coast, and permit the Gulf stream to reach Canadian shores, opening up for all the year round navigation many ports on the Atlantic coast, and the St. Lawrence River as far as Quebec, if not Montreal. Dr. Dawson, Chief Dominion Hydrographer, in a report on the hydrographic survey of Belle Isle Strait, some ten years ago, stated that the Arctic current does not sweep

down the Strait into the Gulf of St. Lawrence, that there is no great constant stream of water coming in from the north, and that the prevailing winds in the Maritime Provinces are off shore. Under such circumstances it does not seem at all likely that the suggested alteration of climatic conditions in the Maritime Provinces and the Gulf of St. Lawrence are likely to be realized.

The building of a dam across the Strait, the building of a railway to connect with existing railways in Canada, and the laying out of a port in Newfoundland, may be all practicable, but their utility when built is another question.

### Transportation Companies' Splendid Work in Demobilizing Troops.

The Minister of Militia, Major General Mewburn, said in the House of Commons, Oct. 1: "I desire to give the following information with regard to the progress of demobilization:

"Total C.E.F. troops embarked from overseas from Nov. 11, 1918, to Sept. 30, 1919, 264,045.

"Total troops discharged from C.E.F. in Canada up to Sept. 15, 1919, 70,731.

Siberian force returned to Canada and demobilized, 4,057.

"Total troops demobilized to Sept. 30 (including those still at sea, about 367), 338,833.

"Total number of hospital patients still overseas to be returned to Canada as of Sept. 19, 126. All other military patients have been returned to Canada. The total number of hospital cases now in military hospitals in Canada is 6,598. We have now reached our peak load and there will be a very rapid clearing of the hospitals.

"It is gratifying to know that in the handling of this large number of men, not a single life has been lost through accident at sea. Three casualties occurred by derailment of a train in Dec., 1918. The rapid handling of the troops by the Canadian Pacific, Canadian National, and Grand Trunk Railways, has been carried out with the greatest possible efficiency."

**Railway Mechanical Conventions**—The American Railroad Association's Mechanical Section General Committee has decided to hold the 1920 and 1921 conventions at Young's Pier, Atlantic City, N.J., the dates for 1920 being June 9 to 16. The first three days will be devoted to papers on locomotive subjects and the last three to car subjects, consolidated committees reporting on June 14. An invitation was extended to section 6, Purchases and Stores, to hold its convention simultaneously with section 3, in order that members might avail themselves of the opportunity to visit the exhibit. A number of new committees were appointed and important changes were made in the personnel of others. The Railway Supply Manufacturers' Association will hold its usual exhibit.

**Italian-Greek Railway Connection**—A London, Eng., cablegram states that an Italian-Greek convention has been concluded for direct railway communication between Rome and Athens, through Ottranto and Valona, on ferry boats.

**German railway officials** are reported to be preparing to increase transportation rates 100%.

## Railway Mechanical Methods and Devices.

### Device for Milling Teeth in Quadrants and Latches.

The accompanying fig. 1 shows a device for milling the teeth in quadrants and latches. The latch is clamped to the frame and the teeth are cut with a cutter of the desired shape. The radius bars are fastened to the same frame as the latch. The spacing is regulated by the teeth in the frame shown in fig. 1.

In cutting the quadrant the bars are fastened to the ends of the quadrant, which are clamped on top of a device in which there is a dog to engage in the tooth of the quadrant. This is clamped to the table of the miller. The first tooth is shaped by moving the table and for the succeeding teeth the dog is used. The clamp on the quadrant is loosened and the quadrant is moved to engage the dog.

Fig. 2 shows a jig for drilling the piston heads and follower plates, the proper holes and bushings being used corresponding to the different heads and followers.

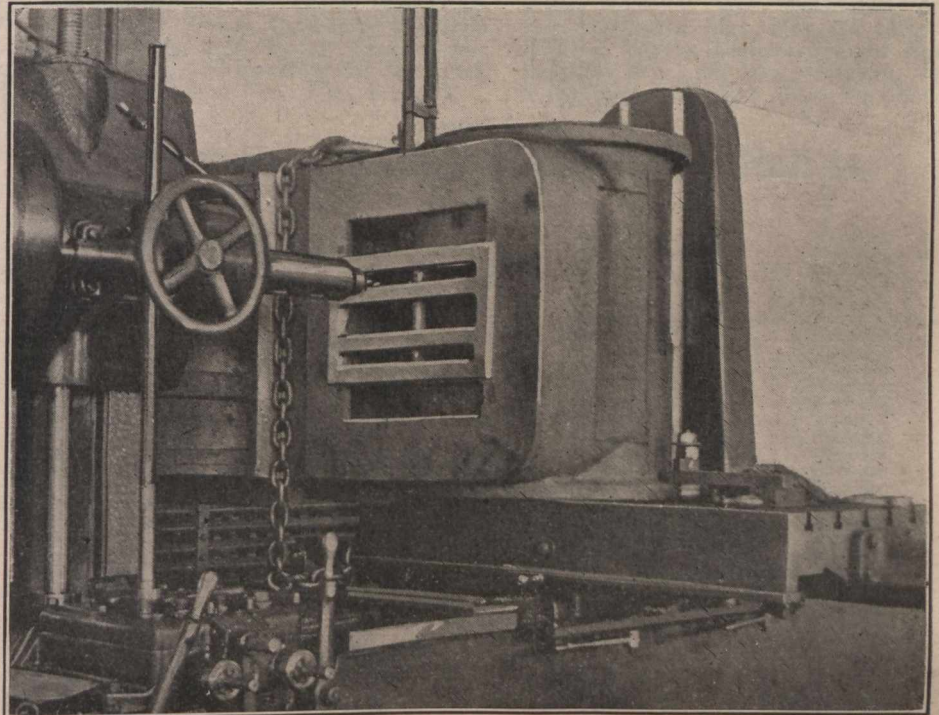
### Milling Cylinder Ports.

One of the uses to which the horizontal boring machine is put in railway shops is shown in the accompanying illustration. Here a locomotive cylinder and half saddle are mounted on the table of a no. 32 Lucas horizontal boring machine, while the valve seat is being machined.

### Extension Staybolt Tap.

All railway shops have use for staybolt taps, with pilots of sufficient length

purpose are required to be as much as 60 in. long and are only handled by the manufacturer as "special" it will be understood that the cost of such taps would be a matter worthy of consideration. The



Milling Ports in Locomotive Cylinder.

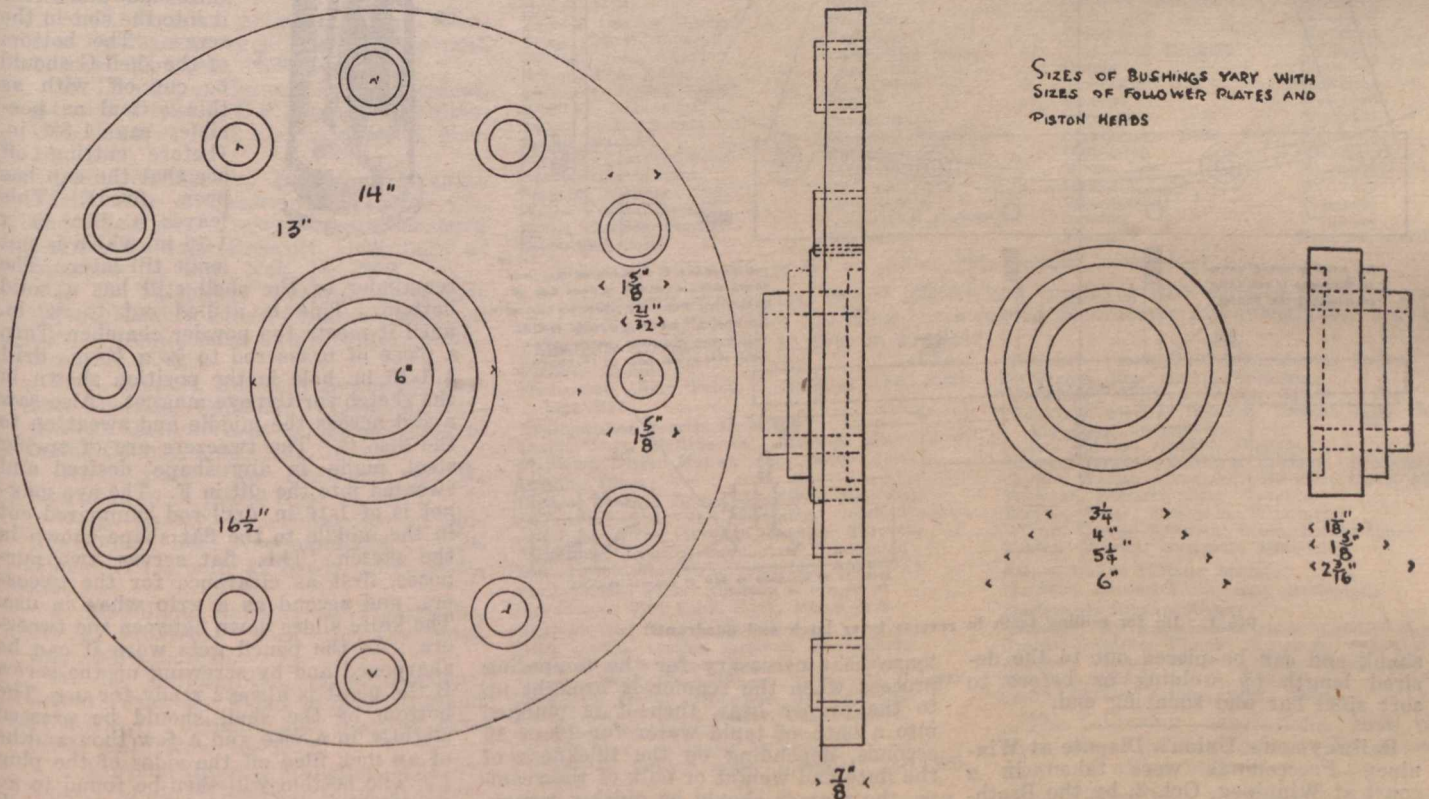


Fig. 2. Jig for drilling holes in follower plates and piston heads.

The valve seat itself is surfaced with a large inserted tooth milling cutter, while the small cutter shown is used to mill the outside of the raised portion forming the seat and also to clean out the valve ports as shown.—I. B. Rich, in American Machinist.

to extend through the water space and inside sheet of firebox, whilst thread is being cut on the outside sheet and then sufficient length of shank to permit the threading of inside sheet without removing the tap from the hole. When it is considered that taps for this

following practice is reported to have proved very satisfactory:

Take a standard staybolt tap 21 in. long, which is carried in stock, and with the aid of the electric welder, attach a connection 2 in. long without annealing the tap. The tap is then put on the

lathe, held with draw in or bar chuck and the welded connection turned and threaded  $\frac{3}{8}$  x 1 in.—12 threads, using the  $\frac{3}{8}$  in. taper boiler tap as the guide. The extension end can then be drilled and threaded allowing  $\frac{1}{4}$  in. for draw to keep tight and in line. Any length of extension can be used on taps. The

**Preheating Reamers and Taps.**

A correspondent reports splendid success with large reamers by preheating, by simply laying the reamer on top of a heating furnace for a day previous to placing inside the furnace. This process seems to relieve the strain of the in-

ers  $1\frac{1}{2}$  in. up to any size crosshead knuckle pin or other reamers coming within this range of sizes. The same process applies to taps large enough to hold sufficient heat to draw the flutes in the tap to the required hardness and at the same time leave the center of the tap soft, which is very desirable when the strain of tapping comes upon it. The best results are obtained with taps running from  $1\frac{1}{2}$  in. diameter up to any size. Smaller sizes will not retain sufficient heat after the water plunge to draw them to the proper temper while in the oil bath.

**A Useful Combination.**

A small but useful combination, which I have used for the last two years, contains four articles which are continually required in any machine shop; viz.: a pair of tweezers E, a knife C, an eye magnet D, and a pencil A.

The case was made from an ordinary 0.303 rifle cartridge. To make one, remove the bullet and melt out the lead from the jacket. Then drill a hole in the nose end, say 1-16 in., for the pencil point to project through, and tap out rear end. Next get a  $\frac{1}{4}$  x  $\frac{3}{4}$  in. headless setscrew, and make the slot deeper with a hacksaw. Out of an old hacksaw blade grind the knife blade and sweat it into the slot in the screw. The bottom of the shell G should be cut off with as thin a tool as possible, say 1-32 in. (before cutting off see that the cap has been fired). This leaves a disc  $\frac{1}{2}$  x 1-16 in. which is put aside till later. The

remainder of the shell still has a solid bottom. This is drilled out to  $\frac{3}{8}$  in. until it meets the powder chamber. Turn a piece of brass rod to  $\frac{3}{8}$  x  $\frac{1}{4}$  in., drill a 1-16 in. hole in the position shown in the sketch for the eye magnet. Also saw a slot across the middle and sweat on to the disc C. The tweezers are of spring steel, made in any shape desired and sweated into the slit in F. The eye magnet is of 1-16 in. drill rod hammered out in the middle to the flat shape shown in the sketch. This flat serves two purposes, first as clearance for the tweezers, and second as a grip when in use. The knife slides down between the tweezers. As the pencil gets worn it can be sharpened and by screwing up the screw B the point is always ready for use. The bottom of the shell should be pressed slightly in a vise and a few thousandths of an inch filed off the sides of the plug F. The bottom will then be found to go on easily one way and by a twist will tighten up and so prevent any tendency to drop out.—N. Renwick, Lithgow, New South Wales.

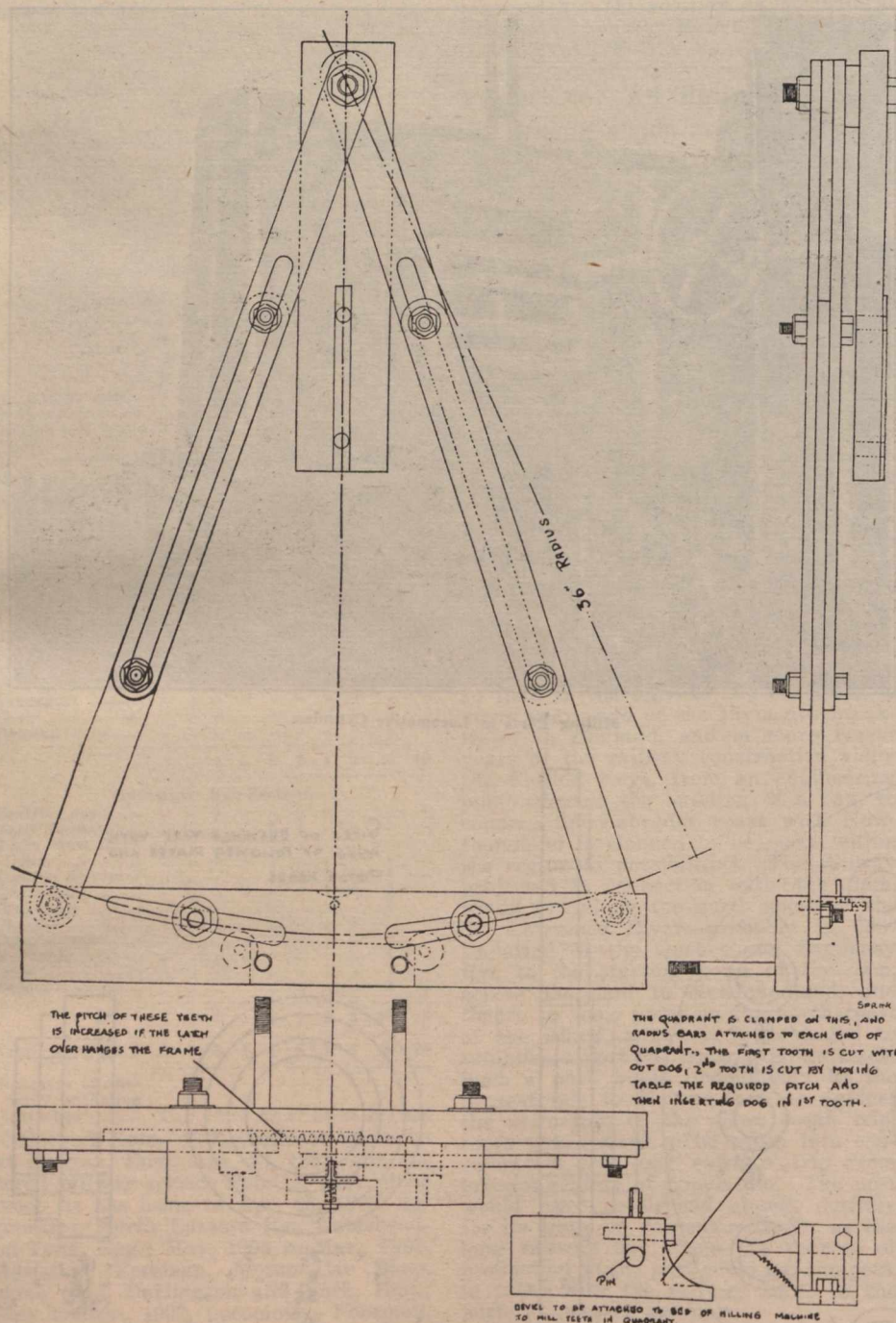


Fig. 1. Jig for milling teeth in reverse lever latch and quadrants.

shank end can be pieced out to the desired length by welding as before to soft steel bar and squaring end.

**Railwaymen's Union's Dispute at Winnipeg**—Proceedings were taken in a court at Winnipeg, Oct. 3, by the Brotherhood of Railway Shopmen, local branch, against the One Big Union unit of Railway Carmen, Section B, for \$11,000 damages, wrongful appropriation of funds, and for illegal detention and conversion of the property and documents of the international branch. The men forming the defendant order split from the international organization in April.

tense heat necessary for the tempering process when the reamer is brought up to the proper heat, then it is plunged into a bath of tepid water for 10 or 15 seconds, depending on the thickness of the flute and weight or bulk of the reamer, the reamer should be quickly removed to oil bath and allowed to remain there until perfectly cooled. This process hardens the flutes to the necessary degree of hardness by the body of the reamer retaining heat sufficiently to draw the flutes to the proper temper. Thus having tempered flutes and a soft center makes a very strong and durable reamer. This process applies to ream-

**Canadian Railway Club**—Major S. P. Robins, General Manager, Dearborn Chemical Co. of Canada, delivered a lecture before the club on Oct. 14 on competition, combination and co-operation.

**Birthdays of Transportation Men in November.**

Many happy returns of the day to—  
 J. O. Apps, General Agent, Mail, Baggage and Milk Traffic, C.P.R., Montreal, born at Tara, Ont., Nov. 9, 1877.  
 H. E. Beasley, General Superintendent, Esquimalt & Nanaimo Ry., Victoria, B.C., born at Hamilton, Ont., Nov. 10, 1862.  
 W. C. Blake, Division Accountant, Canadian National Rys., Winnipeg, born at Liverpool, Eng., Nov. 28, 1865.  
 C. C. Bonter, General Baggage Agent, Canada Steamship Lines, Ltd., Montreal, born at Toronto, Nov. 13, 1884.  
 G. B. Burchell, Managing Director, Bras d'Or Coal Co., Ltd., North Sydney, N.S., Nov. 1, 1877.  
 J. R. Cameron, Assistant General Manager, Western Lines, Canadian National Rys., Winnipeg, born at Truro, N.S., Nov. 5, 1865.  
 F. H. Clendenning, Assistant Foreign Freight Agent, C.P.R., Vancouver, B.C., born at Montreal, Nov. 9, 1881.  
 F. Conway, City Freight and Passenger Agent, C.P.R., Kingston, Ont., born at Ernestown, Ont., Nov. 19, 1850.  
 W. L. Crighton, General Advertising Agent, Canadian National Rys., Toronto, born at Derby, Eng., Nov. 9, 1871.  
 E. C. P. Cushing, Purchasing Agent, C.P.R., Calgary, Alta., born at Ottawa, Ont., Nov. 13, 1886.  
 W. R. Davidson, General Superintendent, Eastern Lines, G.T.R., Montreal, born at Everton, Mo., Nov. 8, 1871.  
 W. R. Devenish, Superintendent, Moncton Division, Maritime District, Canadian National Rys., Moncton, N.B., born in County Tipperary, Ireland, Nov. 21, 1882.  
 A. C. Douglas, acting Assistant General Purchasing Agent, C.P.R., Montreal, born at Montreal, Nov. 10, 1881.  
 W. Downie, ex-General Superintendent, Atlantic Division, C.P.R., now of Whitby, Ont., born at Rock Currie, Ireland, Nov. 12, 1850.  
 Jos. Dubrulle, Jr., Manager, Canadian Pacific Car & Passenger Transfer Co., and President, Prescott & Ogdensburg Ferry Co., Ltd., Prescott, Ont., born at Spencerville, Ont., Nov. 14, 1872.  
 R. L. Fairbairn, General Passenger Agent, Eastern Lines, Canadian National Rys., Toronto, born at Stillwater, Minn., Nov. 24, 1880.  
 J. E. Gibault, Resident Engineer, Quebec District, Canadian National Rys., Quebec, Que., born at St. Jerome, Terrebonne County, Que., Nov. 16, 1887.  
 Grant Hall, Vice President, C.P.R., Montreal, born there, Nov. 27, 1863.  
 W. E. Ladley, Superintendent of Motive Power, Reid Newfoundland Co., St. John's, Nfld., born at Leeds, Eng., Nov., 1875.  
 J. McMillan, Manager of Telegraphs, C.P.R., Montreal, born at Liverpool, Eng., Nov. 2, 1866.  
 A. B. McNaughton, Superintendent, Grand Trunk Ry. Lines in New England (U.S.R.A.), Portland, Me., born at Arnprior, Ont., Nov. 10, 1877.  
 C. Murphy, General Manager, Western Lines, C.P.R., Winnipeg, born at Prescott, Ont., Nov. 20, 1865.  
 G. H. Nowell, Master Mechanic, Revelstoke Division, British Columbia District, C.P.R., Revelstoke, born at Montreal, Nov. 13, 1885.  
 W. J. Quinlan, District Passenger Agent, Grand Trunk Pacific Ry., Winnipeg, born at Montreal, Nov. 21, 1883.  
 J. J. Rose, ex-General Agent, Union

Pacific System, Toronto, born there, Nov. 22, 1878.  
 G. H. Shaw, ex-General Traffic Manager, Canadian Northern Ry., Toronto, born at Smiths Falls, Ont., Nov. 25, 1859.  
 P. D. Sutherland, General Agent, Passenger Department, Canadian Pacific Ocean Services, Ltd., Hong Kong, China, born at Toronto, Nov. 2, 1879.  
 L. C. Thomson, ex-General Storekeeper, Eastern Lines, Canadian National Rys., Toronto, now General Storekeeper, Canadian Car and Foundry Co., Montreal, born at Kingston, Ont., Nov. 25, 1882.

H. P. Timmerman, Industrial Commissioner, Eastern Lines, C.P.R., Montreal, born at Odessa, Ont., Nov. 6, 1856.  
 Guy Tombs, ex-Assistant Freight Traffic Manager, Eastern Lines, Canadian National Rys., now Traffic Manager, Canadian Export Paper Co., Montreal, born near Lachute, Que., 22, 1877.  
 T. W. White, District Engineer, Canadian National Rys., Edmonton, Alta., born at Clinton, Ont., Nov. 29, 1880.  
 W. A. Whyte, District Freight Agent, Canadian National Rys., Calgary, Alta., born at Hornsey, Eng., Nov. 24, 1890.

**Canadian Pacific Railway Honor Roll 44.**

Ancelle, Leon Henry	Draughtsman	Calgary	Wounded
Angus, Robert	Officer	S.S. "Calgarian"	Drowned
Bell, George Herbert	Locomotive fireman	Winnipeg	Wounded
Bernier, Alexander	Machinist	Angus	Wounded
Bonner, Harry J.	Helper	Winnipeg	Wounded
Brundrett, George Fredk.	Chief clerk	Calgary	Died of wounds
Chalus, C.	Chauffeur	Brooks	Wounded
Doodson, Frank	Brakeman	Cranbrook	Wounded
Estes, Errol John	Trainman	Brownville Jet.	Wounded
Foran, James Francis	Yardman	West Toronto	Wounded
Gauthier, Charles	Helper	Angus	Wounded
Gay, Marwood Ralph	Locomotive fireman	Moose Jaw	Wounded
Gill, James	Clerk	Montreal	Wounded
Glenn, Norton William	Operator	Winnipeg	Wounded
Graham, Thomas	Locomotive fireman	Calgary	Wounded
Hardy, Roy	Brakeman	Schreiber	Wounded
Harrington, John Harold	Trainman	Minnedosa	Wounded
Hoerder, Max Eric	Timber inspector	Brooks	Wounded
Hubbard, Joseph	Sectionman	St. Mary's	Wounded
Hughes, Richard	Checker	Winnipeg	Wounded
Jackson, Alfred	Watchman	Nelson Division	Wounded
Kay, Abel	Carman	Alyth	Wounded
Lee, Arnot Brown	Clerk	Regina	Wounded
McClain, Walker, B.	Porter	Brownville Jet.	Gassed
McDougall, Reginald St. Clare	Clerk	Regina	Wounded
McInnis, Alexander	Trainman	Revelstoke	Wounded
McKinnon, Donald	Section foreman	Whitewood	Wounded
Martin, Albert	Helper	Angus	Wounded
Milne, Robert	Fitter	Angus	Wounded
Mole, Charles Addney	Clerk	Vancouver	Wounded
Morgan, Wm. Clement	Clerk	Montreal	Gassed
Morris, Charles Eric	Clerk	Montreal	Died of wounds
Mossman, William Smith	Weighman	Fort William	Wounded
Munro, Neil	Painter	Sudbury Division	Wounded
Palmer, Charles Duncan	Trainman	Revelstoke	Wounded
Price, Charles Edward	Brakeman	Cranbrook	Wounded
Purton, Fred, Thos.	Locomotive man	Woodstock Division	Wounded
Reeves, Wm. Hodgson	Apprentice	Ogden	Wounded
Rheaume, Joseph Elzear	Porter	Terrebone	Wounded
Scotland, Alexander	Helper	Kenora	Wounded
Smith, James Albert	Yardman	Toronto	Wounded
Staves, Edward	Assistant lineman	Strathmore, Alta.	Wounded
Tidy, William Halmond	Messenger	Edmonton	Gassed
Wadsworth, William	Yardman	Moose Jaw	Wounded
Watson, William	Machinist	Ogden	Wounded
Wells, Frank Thomas	Coppersmith	Winnipeg	Wounded
Zavit, Gordon Eugene	Locomotive fireman	London	Wounded
Zetterland, John	Conductor	Brandon	Died of wounds

Shown on honor lists to Oct. 1: Killed, 908; wounded, 1,995; total, 2,903.

Following is a partial list of officers 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:

**Victoria Cross:**  
 †Robertson, John Peter, Locomotive man, Medicine Hat.

**Distinguished Service Order:**  
 Leask, Thas, McCrae (a), surgeon, Moose Jaw.  
 Maitland, Oliver Mowat, clerk, Moose Jaw.

**Military Cross:**  
 Double, Thomas Henry, constable, Montreal.  
 \*Hertzberg, Olaf Phil, levelman, North Toronto.  
 Jennings, Alfred William, cashier, Toronto.  
 \*McKillop, Donald, conductor, Cranbrook.  
 May, Frank Randolph, inspector, Angus.

**Distinguished Flying Cross:**  
 Hallonquist, Jos. Eskil, clerk, Moose Jaw.

**Distinguished Conduct Medal:**  
 Bain, James, section foreman, Bredenbury.  
 Collis, William Orme, transitman, Sudbury.  
 \*Holmes, W. Jackson, locomotive fireman, Calgary.  
 McMahon, Frank, brakeman, Smiths Falls.  
 \*Malkinson, Wilfred, helper, Ogden Shops.  
 \*Rhoades, Rupert, hostler, Ignace.  
 Thorne, Percy, constable, Winnipeg.  
 \*Townsend, Gordon Jesse, constable, Fort William.

**Military Medal:**  
 Bain, James, section foreman, Bredenbury.  
 \*Campbell, John Charles, machinist, Ogden.  
 \*Cassidy, Thomas Joseph, porter, Campbell's Bay.  
 \*Counahan, Patrick, trainman, West Toronto.  
 \*Cracknell, Edward (a), conductor, Fort William.  
 Daum, Alfred Frank, yardman, Swift Current.  
 Ferguson, Robert John, brakeman, Winnipeg.  
 Flett, Charles Joseph, assistant agent, Herbert.  
 Gordon, John Lawrie, clerk, Toronto.  
 Hewitt, Clarence S., operator, Glen River.  
 Jackson, George, car carpenter, Winnipeg.

McMahon, Frank, brakeman, Smiths Falls.  
 McMorron, Roy, clerk, Vancouver.  
 \*Malkinson, Wilfred, helper, Ogden shops.  
 Nelson, Frederick William, fireman, B.C. Lake and River steamboats.  
 Sellen, Charles, checker, Toronto.  
 \*Staves, Edward, assistant lineman, Strathmore.  
 Taylor, Wesley Alexander, operator, Hazel Hill.  
 Thomson, Stewart, clerk, Toronto.  
 Thorne, Percy, constable, Winnipeg.  
 Wilson, George Fenwick, fitter, Lethbridge.  
 Yeates, Charles, trainman, Brandon.

**Second Bar to Military Medal:**  
 \*Lawson, Frederick, lineman, Revelstoke.

**Meritorious Service Medal:**  
 \*Geissler, Charles Richard, clerk, London, Ont.  
 Graham-Gardner, Thomas H., clerk, Antwerp.  
 Kearney, Thomas William, clerk, Moose Jaw.  
 Mendham, Charles, clerk, Winnipeg.  
 Smith, Charles Arthur, clerk, Weyburn.

The following decorations have also been presented to employes by governments of allied nations:

Collis, William Orme, transitman, Sudbury, Croix de Guerre.  
 Curtis, Graham Waters, industrial agent, Montreal, Italian Medal for Valor.  
 Davidson, Robert Hilditch, clerk, Vancouver, Medaille d'Honneur, avec glaives (en bronze).  
 Hallonquist, Joseph Eskil, clerk, Moose Jaw, Italian Medal for Valor.  
 Hamlet, William, checker, Fort William, Croix de Guerre.  
 Marked thus (a) with bar; (†) killed in action; (\*) wounded.





28,853. Oct. 3.—Dismissing application of City of Vancouver, B.C., for order to open up Commercial Drive for a crossing over C.P.R. to the government dock on Burrard Inlet, and authorizing city to make crossing at intersection of Stewart St., and Salisbury Drive.

28,854. Oct. 3.—Defining rates per car which carriers west of Lake Superior may charge for operations they may be called upon to perform on long sidings, or spurs, additional terminal service of switching by locomotive, or freight which in the same cars, has been or is to be hauled by the switching carrier or a connecting carrier.

28,855. Oct. 7.—Approving Quebec, Montreal and South Ry. standard maximum passenger tariff C.R.C. 274, effective Oct. 19.

28,856. Oct. 6.—Approving work, plan and specifications of Keogh discharge drain to be built under G.T.R., near Whites Station, Que.

28,857. Oct. 7.—Approving agreement, Sept. 27, between Bell Telephone Co. and Brompton Pulp & Paper Co., operating in Beauce, Compton and Wolfe Counties, Que.

28,858. Oct. 6.—Approving Canadian National Rys., proposed timetable, effective Oct. 5, re train service at Fallowfield, Ont.

28,859. Oct. 6.—Authorizing G.T.R. to rebuild overhead bridge, carrying John St. over its tracks at Paris, Ont.

28,860, 28,861. Oct. 4.—Authorizing G.T.R. to remove station agents at Glen Huron and Wye-bridge, Ont., the former to be a flag station.

28,862. Oct. 6.—Authorizing G.T.R. to build spur for Salts and Potash Co., of Canada, at mileage 42.5, Prince Albert Branch, Sask.

28,863. Oct. 3.—Authorizing C.P.R. to bridge two spurs for loading ties at mileage 18.51, Heron Bay Subdivision, Thunder Bay District, Ont.

28,864. Oct. 7.—Authorizing C.P.R. to build siding for Imperial Oil, Ltd., Claresholm, Alta.

28,865. Oct. 6.—Approving general plan 632-20-1 of location of sidings for Quaker Oats Co., Peterborough, Ont.

28,866. Oct. 6.—Approving G.T.R. standard station plan 6, showing details of station to be built at Prince George, B.C.

28,867. Oct. 7.—Authorizing Canadian National Rys. to rebuild bridge over Pike Creek, at Weir, Que.

28,868. Oct. 7.—Authorizing Halifax and South Western Ry. to build spur for Town of Bridgewater, N.S., at Brookfield Mines.

28,869. Oct. 1.—Authorizing G.T.R. to build spur for Imperial Oil Ltd., Levis, Que.

28,870. Oct. 6.—Ordering Canadian National Rys. to make roadway 12 ft. wide on western side of eastern pier of bridge at Merivale, in Con. 1, Nepean Tp., Ont.

28,871. Oct. 6.—Authorizing G.T.R. to operate over siding to be built by Roger Miller & Sons, along and across Keating St., Toronto.

28,872. Oct. 7.—Authorizing C.P.R. to build spur for E. J. Bawlf & Co., Winnipeg.

28,873. Oct. 6.—Relieving C.P.R. from providing further protection at crossing, between Secs. 255 and 36, Tp. 16, Range 26, west 2nd meridian, Sask.

28,874. Oct. 7.—Authorizing Canadian National Rys. to rebuild spur over west branch of Yamachiche River, at mileage 98.88 from Quebec.

28,875. Oct. 8.—Dismissing complaint of F. P. Reiley, Priceville, Ont., against proposed change of train service by C.P.R., between Walkerton and Saugeen Jet., Ont.

28,876. Oct. 8.—Authorizing Canadian National Rys. to rebuild bridge over Bolger Creek, Burton Tp., Parry Sound District, Ont., at mileage 26.8.

28,877. Oct. 8.—Recommending Windsor, Essex and Lake Shore Rapid Ry. operating rules to Governor in council for sanction.

28,878. Oct. 8.—Appointing T. L. Simmons, Assistant Chief Engineer of Board, to determine damages in connection with building of Canadian Northern Ontario Ry., across streets in North Bay, Ont.

28,879. Oct. 10.—Authorizing Canadian National Rys. to rebuild bridge over Cedar Lake Outlet, Rhodes Parish, Que., at mile 134, from Quebec.

28,880. Oct. 10.—Approving C.P.R. clearances of permanent train shed for Lake of the Woods Milling Co., at Elevator A, Keewatin, Ont.

28,881. Oct. 9.—Authorizing C.P.R. to build two sidings for Fraser Co., Edmundston, N.B.

28,882. Oct. 9.—Approving location of Edmonton, Dunvegan & British Columbia Ry., at Alcomdale, Alta.

General order 273. Oct. 8.—Extending to Sept. 30, 1920, time within which railway companies may equip their freight cars with safety appliances as required by general order 128, July 20, 1914.

**Greater Winnipeg Water District Ry.**  
—A press report states that the Greater Winnipeg Water District Commission is endeavoring to obtain a subsidy from the Dominion Parliament in aid of the railway. The line extends from St. Boniface to Shoal Lake, an area of the Lake of the Woods, 97 miles, and serves a section of the province which offers considerable inducements to settlers.

## Special Provisions for Railway Employees Voting in Ontario.

The Ontario Legislature in 1918 amended the Municipal Act by providing that railway employees likely to be absent from their headquarters on the days of municipal elections, might vote at specially appointed polling places at railway centers on other days than the actual election days. At its last session, the Ontario Legislature amended the Ontario Elections Act so that special polls may be provided by order of the Lieutenant Governor in council, "at any election to the Assembly, or the voting upon any question submitted to the electors of Ontario, for receiving the votes of railway employees whose employment is such as to necessitate their absence from time to time from their ordinary place of residence and who have reason to believe that they will be so absent upon the day fixed for polling at such election or upon such question." The various subsections deal with the opening and closing of such polls, the number of polls, and the appointment of deputy returning officers and poll clerks, the notice to be given, and other details. One subsection provides that each person offering himself as a voter, has to sign a declaration that he is employed by a railway company and that he expects to be absent from home on the day of the poll. A penalty of not less than \$25 and not more than \$100 is provided for making a false declaration.

In connection with the recent general election, polls were opened on Oct. 17, 18 and 19, at the following railway centers throughout the province: Brockville, Cochrane, Hearst, St. Thomas, Fort William, Belleville, Trenton, East Hamilton, West Hamilton, Sioux Harbor, Kenora, Sarnia, Sarnia Tunnel, Smith's Falls, London, Carleton Place, Fort Erie, Niagara Falls, Madawaska, North Bay, Ottawa East, Ottawa West, Depot Harbor, Havelock, Palmerston, Stratford, Schreiber, Armstrong, Port Arthur, Rainy River, Allandale, Capreol, Chapeau, Michipicoten Harbor, Sault Ste. Marie, Rosedale, Toronto union station, Toronto Jet., Riverdale station, Toronto; Parkdale station, Toronto; Englehart, Lindsay, Windsor and Mimico.

## Detention of Canadian Cars in the United States.

H. E. Lavigne, M.P. for Quebec County, asked the following questions in the House of Commons recently:—"Is the Minister of Railways aware of the fact that the lumber trade is suffering from a great scarcity of cars owing to the fact that more than 44,000 Canadian cars are withheld in the United States against 23,350 cars on the Canadian lines? Is it the intention of the government to fix at \$5 a day the duty now of 70c that the railway companies are obliged to pay for every car on their lines belonging to other companies?"

The Minister of Railways replied as follows:—"According to a statement issued by the Canadian Railway War Board on Oct. 2, there was a total of 59,671 Canadian owned freight cars in the United States, and a total of 38,069 U.S. owned freight cars in Canada, the excess of cars in the U.S. being 21,602. Included in the above there were 44,019 Canadian owned box cars in the U.S. and 20,650 U.S. owned box cars in Canada; the difference in this case being 23,369. We have received very few complaints

about shortage of cars for lumber shipments to points within the Dominion, or for export overseas, but it has been found impossible to secure an adequate supply of U.S. owned cars to take care of shipments of lumber, pulp and paper from Canadian to U.S. points. It is impracticable to furnish Canadian owned cars freely for such traffic, inasmuch as the cars are not promptly returned to Canada, and such action would immediately result in producing a shortage of cars for Canadian internal traffic. The Minister of Railways has taken the matter up with the authorities at Washington and every effort possible has been made to secure a balance of equipment. The standard per diem or car rental charged by one railway to another for the use of freight cars, is at present 60c per day, per car, this rate being established by the American Railway Association, and we are not aware of any proposal to change the rate, neither would a change in rate materially affect the question referred to."

## Subsidies Paid to Railways.

Senator Casgrain enquired in the Senate, Oct. 21, as to the amount paid in subsidies to the G.T.R. during the last 65 years, to the C.P.R. during the last 37 years, to the Canadian Northern Railway during the last 25 years, and to the Grand Trunk Pacific Ry., from Winnipeg to Wolfe Creek, or 120 miles west of Edmonton. Sir James Loughheed replies as follows: "The following information is as far as the Railways Department is concerned:—

G.T.R. System, \$15,142,633.34; G.T.R., Victoria bridge, \$500,000; total, \$15,642,633.34. C.P.R. Co., original construction, \$25,000,000; Canadian Pacific extension (North Shore), \$1,500,000; branch lines, \$5,369,374.70; Canadian Northern Ry. Co., C.N.R. Co., \$1,090,132; C.N. Quebec Ry. Co. (formerly Great Northern Ry., Quebec), \$1,265,357.14; C.N. Quebec Ry. Co. (formerly Chateauguay & Northern Ry.), \$391,819.75; C.N. Alberta Ry. Co., \$3,120,000; C.N. Ontario Ry. Co., \$14,485,635.20; C.N. Pacific Ry. Co., \$5,987,520; total, \$27,159,464.09.

Grand Trunk Pacific Ry. Co., no subsidy paid on line between Winnipeg and Wolfe Creek, in so far as the Railways and Canals Department is concerned.

**The Sir Robert Reid Estate**—The action brought by Miss Harriet D. Reid, only daughter of the late Sir Robert G. Reid, against Sir William D. Reid, H. J. Reid, R. G. Reid, Lord Shaughnessy, the Royal Trust Co., Montreal, and the Reid Newfoundland Co., for the appointment of a sequestrator in connection with the management of Reid Newfoundland Co.'s shares, owned by her late father, came before a court at Montreal, Sept. 27, and judgment was given by Justice Coderre, Oct. 9. In the course of the hearing it transpired that Sir Robert Reid's will directed the sale of his interests in the Reid Newfoundland Co., and the investment of the proceeds in safe and conservative investments; that Sir William Reid in 1917, while on a sick bed in New York, signed a document providing for a division of the shares, and that the Royal Trust Co., Montreal, was appointed trustee and executor in place of the three Reid brothers and Lord Shaughnessy. The judgment directs the appointment of a sequestrator in respect of 54,767 shares in the company, pending the trial of the main action. The judgment is being appealed.

## Railway Ditching and Drainage.

The following report was presented at the Roadmasters and Maintenance of Way Association's annual meeting in Chicago recently by a committee of which J. P. Corcoran, Roadmaster, Chicago and Alton Rd., was Chairman, and of which H. Ferguson, Superintendent of Track, Ontario Lines, G.T.R., Toronto, was a member:

The subject assigned to us, drainage, is one of the most essential in railway maintenance.

1. If tracks have not the proper drainage, no matter how good the rail, ballast and ties, the tracks will become out of line and surface. Drainage on many roads in the last few years has been neglected on account of the scarcity of labor. At present with the high cost of labor, we must seek other devices for proper ditching and draining.

2. In the past hand work of labor and work train was thought to be the essential way of cleaning ditches. Today we have ditching machinery that will clear out ditches, shape and slope them. One ditching machine will do as much as 50 men.

3. Where water lies on the surface or in ditches in the autumn and during the winter, we find the track heaving. It is just as expensive to shim our tracks and keep constant watch over the shimmed track as it would be to do the proper ditching to carry away the water so the roadbed would be dry and track would not heave. Frequently there are places where this cannot be done without going to considerable expense to put in drain tile, this tile to be laid below frost line and the movement of the roadbed. Generally this distance should not be below less than 4 or 5 ft. below the bottom of the tie. The ditch should be filled with sufficient suitable porous material to draw the water to the tile. Even in such cases it is economical to put in tile to draw the water away, thus keeping the track dry and keep it from heaving.

4. Where there are wet cuts, frequently causing trouble, there should be a tile through the cut, suitably laid below frost line and any movement of the roadbed. Generally this depth should not be less than 4 or 5 ft. below the bottom of the tie.

5. Through cuts where there is silica sand, quicksand, or alkali clay, that slides in quickly, the time to put in drainage is in very dry weather and sheet piling should be used in opening the ditch to lay in the tile. When the length of ditch for the day has been dug and the tile laid, it should be filled in, in the evening, with coarse, suitable material to draw the water to the tile. Great care should be taken to get the tile laid the proper fall from the beginning to the mouth of the tile. At the mouth of the tile a mattress of either good heavy rip-rap, or a bottom of old ties, should be used to prevent the dirt washing from under tile.

6. Where there are soft spots in the track, either in cuts or on a fill where track slides on account of improper drainage or softening of track, French drains placed either between tracks or in ditches are a great help to the track; a ditch opened 4 or 5 ft. deep and 3 or 4 ft. wide and filled in with rip-rap or stone and laterals cut in under the track to drain into the French ditch, will be found to be very beneficial and will prevent the track from going out of line and

surface. Laterals should be placed wherever found necessary to draw the water from under the tracks. Embankments extended along existing tracks on earth or clay and having sufficient bond of existing fill, during rainy seasons, will slide on account of leakage of water between the old and new grades. In many cases an auger can be used to bore into the side of the bank and a pipe be placed in to give the drainage and draw the water.

7. Where practical, ditching should be done by machinery.

8. Below are figures of ditching by different methods for 1917 and 1918:

American Steam Ditcher—Ditch labor, \$18.90; W. T. labor, \$28.36; Rental of equipment, \$31; Cost of maintenance, \$1.45; Cost of supplies, \$12.80; total cost, \$92.51; Cu. yards handled, 224; Cost per yard .....	\$0.4130
Mahoney Ditcher—Ditch labor, \$31.75; W. T. labor, \$28.36; Rental of equipment, \$30; Cost of supplies, \$10.62; Cost of maintenance, \$0.93; Total cost, \$101.66; Cu. yards handled, 252; Cost per yard....	0.4034
Push cars (two)—1 foreman at \$83, \$2.77; 11 laborers at \$2.25, \$19.80, total \$22.57. Cost per yard.....	0.5862
Car Barrows—1 foreman at \$83, \$2.77; 4 laborers at \$2.25, \$7.20; total \$9.97. Cost per yard .....	0.7670
Wheelbarrows—1 foreman at \$83, \$2.77; 6 laborers at \$2.25; \$10.80; total, \$13.57. Handled 19 cu. yds. Cost per yard.....	0.7142
Casting—1 foreman at \$83, \$2.77; 6 laborers at 2.25, \$10.80; Total \$13.57. Handled 38½ cu. yds. Cost per yard.....	0.3525

This cost data is arrived at from work actually performed on a single track, having an average of six tonnage trains during working hours; of soft clay roadbed where the standard ditches are such as are ordinarily known or described as shoulder ditches—that is where there is a shoulder of 7 ft. maintained outside of the rail, with ditch 3 ft. wide by 2 ft. deep, maintained outside of that, which is analogous to the dipper or bucket on the drag ditcher as above referred to, this type of ditcher being preferable on this particular line to the American, Marion or Erie, except in case of small slides or very heavy ditching.

9. On two or more tracks, suitable drainage should be provided to carry away the surface water.

10. Particular attention should be paid to the drainage of frogs, switches and railway crossings, the remedy depending upon local conditions. This resolves in the matter of providing sufficient rapid drainage, which can be accomplished by providing good surface drainage. Railway crossings, wherever possible, should be drained by using a good depth of cobble stone, say 3 to 4 ft. deep and covering same with ordinary ballast of stone or slag and putting in a drain to carry out the water from the bottom of the cobble stones. This will keep the crossing up from pounding and keep it in line and surface.

11. Through yards where drainage is hard to get, there should be drains laid with catch basins wherever necessary to catch the water and carry it away, and in this manner tracks will not lie under water or the water will not soak in the ground and cause tracks to become uneven, which we frequently find in the autumn and winter where there are not the proper facilities for draining tracks. All yards should have a drainage system.

12. Poor drainage at station platforms, street and highway crossings, on account of ballast becoming foul, or proper drainage not being given to crossings. Those are always the last to re-

ceive attention. At such places there should be suitable drain leading to the outside of the ties 5 or 6 in. below the tie to draw the water away. Ballast in the crossing should be kept clean, so water will reach the drain and be drawn away quickly and not allow the subgrade to become soft. There should be a proper outlet for this drain so that the water could be disposed of.

13. Section forces should keep ditches clean at all times and have a working system of keeping them clean.

### Canadian National Railways Earnings.

	1919	1918
January .....	\$ 6,744,018	\$ 4,696,567
February .....	6,000,342	4,421,504
March .....	6,827,491	5,710,660
April .....	6,909,632	7,165,890
May .....	7,518,244	6,580,745
June .....	6,009,585	6,868,864
July .....	7,657,402	5,733,299
August .....	8,274,882	8,255,942
September .....	8,627,268	7,058,381
	\$64,569,137	\$56,491,852

Approximate earnings for 2 weeks ended Oct. 14, \$4,077,031, against \$3,534,845 for same period, 1918.

### Canadian Pacific Railway Earnings, Expenses, Etc.

Gross earnings, working expenses, net earnings, and increases or decreases, from Jan. 1, 1919, compared with those of 1918:

	Gross	Expenses	Net	Increases or decreases
Jan. ..	\$13,023,328	\$11,474,816	\$1,553,512	\$ 385,519
Feb. ..	11,064,167	10,083,051	981,116	390,218
Mar. ..	12,374,182	10,835,188	1,539,044	*1,453,737
Apr. ..	13,108,905	11,020,281	2,088,624	*1,366,765
May ..	13,569,411	10,535,650	3,033,761	*654,015
June ..	13,577,274	10,586,852	2,990,421	178,274
July ..	14,720,262	11,723,659	2,996,703	826,692
Aug. ..	15,283,654	11,505,486	3,778,168	569,534

	\$106,726,283	\$87,764,934	\$18,961,348	*\$1,124,277
Incr. \$	9,230,079	\$10,354,356	\$1,124,277	.....
Decr. ....	.....	.....	\$1,124,277	.....

Approximate earnings for 2 weeks ended Oct. 14, \$7,994,000, against \$6,982,000, for same period, 1918.

### Grand Trunk Railway Earnings, Expenses, Etc.

Gross earnings, working expenses, net earnings, and increases or decreases, from Jan. 1, 1919, compared with those of 1918:

	Gross	Expenses	Net	Increases or decreases
Jan. ..	\$ 4,402,229	\$ 5,118,234	\$ 716,005	* \$1,794
Feb. ..	4,088,028	4,397,953	†309,925	*660,229
Mar. ..	5,513,593	4,673,298	840,295	762,766
Apr. ..	5,357,537	4,601,550	755,987	92,589
May ..	5,272,060	4,603,411	668,649	*36,495
June ..	4,047,795	4,644,659	303,136	*707,067
July ..	6,021,746	4,886,147	1,135,599	*35,347

	\$35,602,988	\$32,925,252	\$2,677,736	*\$665,277
†Deficit. *Decrease.				

**Uniforms for Canadian National Railways Employees**—C. G. Power, M.P. for Quebec South, asked several questions in the House of Commons recently, as to the manner in which contracts for uniforms for Canadian National Rys. employes are given. The Minister of Railways replied as follows: "On the Canadian Government Rys. section, uniforms were formerly obtained on the basis of competitive bids, but the results were so unsatisfactory that for the past five years the work of making uniforms on that section has been entirely entrusted to W. J. Inglis & Co. of Montreal. They have contract for uniforms for Quebec divisions of Canadian Northern Ry. system, and for Ontario and western lines competitive offers are obtained."

## Canadian Pacific Railway Steel Underframe Refrigerator Cars.

These 41 ft. cars are designed for satisfactory service when handling any of the several different commodities which require to be transported in insulated cars, because of the need of protection from heat or frost, also for other miscellaneous freight which may properly be loaded in refrigerator cars when they are not required for the transportation of perishables. As packing house products are regularly handled in Canada by railway owned refrigerators, the cars are equipped with galvanized iron tank bunkers, which permit the use of salt, as required to obtain the proper degree of temperature. Regulation meat racks are installed as part of the roof end ceiling construction.

**Ventilation**—To prevent the exchange

cult commodity to transport, as the field heat, and the heat generated by the ripening process, produce a condition that is difficult to handle. However, the brine tank ventilator car, when equipped with suitable floor racks, arranged so that free circulation will take place around the ice and out under the racks, is particularly suited to this traffic, as the use of salt on the initial icing lowers the temperature of the car rapidly, absorbing the field heat and checking the process of ripening. For fruit shipments it is well to apply temporary slats along the sides of the car to provide space for circulation at the sides as well as underneath. All other perishables may easily be transported safely in these cars, provided reasonable care is used in loading

galvanized after pressing, sides 16 gauge galvanized iron. Near the top substantial lugs are rivetted, which bear against the underside of hatch frame and prevent tanks from jumping when cars are being shunted. The tank supports, consisting of angle irons, are arranged so that the front supporting angle may be removed without disturbing any tank. After the removal of this angle, one or more tanks may be removed and re-applied without disturbing the others.

The drip pan under the tank is sloped from the car end towards the front of the tank, so as to be as nearly self-clearing as possible. The front edge of the drip pan is made of  $\frac{1}{8}$  in. pressed steel plate, galvanized. This arrangement avoids, to a considerable degree, the ob-



Canadian Pacific Railway, 41 ft. Steel Underframe Refrigerator Cars.

of air through the hatch openings at any time, and especially when the hatches are opened for reicing, the tanks fit well around the ceiling, and the ventilator openings are fitted with malleable iron frames, with a close fitting plate slide, which is secured in a closed position at all times except when the cars are operating under ventilation. For berry and fruit traffic it is necessary to provide a means of ventilation. This has been taken care of by providing openings in the fronts of the ice tanks near the top, so that when the hatch covers and plugs are opened, air will circulate freely into and through the car. When operating under ventilation, the use of ice, or ice and salt, is optional, thus providing a wide range of regulation which may be varied to suit the seasons, condition of the load, and the distance to be moved. Fruit fresh from the field is a very diffi-

so that the air within the car may circulate freely.

**Winter Service**—Whenever lading requires protection from frost, charcoal heaters are placed in the corner ice tanks, two or more per car as required.

**Floor Racks**—Permanent racks of  $1\frac{1}{4}$  x  $3\frac{3}{4}$  in. B.C. fir are installed in sections, 5 sections per side. They are secured with hinges, similar to those used on side doors, to the lining base plank, and when propped up against the car sides, the racks are entirely clear of the floor, and permit it to be thoroughly and easily cleaned and swept out through the side door openings. The racks are made of relatively heavy material to insure durability, especially when car is loaded with miscellaneous merchandise freight.

**Ice Bunkers**—There are 4 rectangular galvanized iron tanks at each end of the car; tank bottoms  $\frac{1}{8}$  in. pressed steel,

construction of free circulation of air down around the tanks and out under the floor racks.

**Tank Drains**—The center tanks, at the ladder corners only, are equipped with a drain valve, and the remaining 3 tanks at each end of the car are coupled to this tank, by a hose connection located 2 ft. above tank bottom. The drain valve is connected to a pipe extending directly through car floor.

**Insulated bulkheads** are provided in front of the ice bunkers. These bulkheads are arranged at one side of the car, so that they may easily be swung opened for inspection, cleaning, or repairing tanks. The bulkheads have an extension at the bottom, with horizontal slat, to prevent small crates or boxes from sliding under the bulkhead.

The ice hatches are of U.S.R.A. design, modified only as absolutely necessary to

suit conditions.

Roofs are of galvanized iron, type XLA, flexible, applied over single course of boards and one layer of 2-ply asphaltum roof paper. The spacing of the carlines is governed by the spacing of meat rack supports, and on account of roof insulation the roof mullions and running board saddles are spaced to coincide with the carline centers; this provides substantial solid construction for nailing the mullions. The roof sheet pivot saddles are secured by carriage bolts, applied through a special washer nailed on the underside of the ridge pole; this washer when applied is L shaped, secured by 2 nails. After the carriage bolt has been applied, the projecting end of the washer is bent back under the bolt head, so as to prevent the bolt from dropping down. The hole in the washer is square, to suit the shank in the bolt head.

**Insulation**—The floor insulation consists of a layer of 90 lb. water proof insulation paper, applied in one piece from side to side, and end to end, of car, thereby covering the entire underframe and subfloor. On top of this are placed the floor stringers, the center stringers resting on and bolted to the edge of center sill cover plate; the intermediate stringers rest on and are bolted to the bolsters, cross bars and floor beams. Between the stringers 4 layers of  $\frac{1}{2}$  in. insulation are applied in strips, continuous from end to end of car. Each layer consists of hair and fibre felt stitched between 2 courses of 90 lb. water proof insulation paper. The 4 layers are applied in 2 courses of double layers, with nailing strips, and  $\frac{3}{8}$  in. t.&g. boards between.

The floor consists of 2 courses t.&g. boards, the under course  $\frac{3}{8}$  in. thick, over which is spread a heavy coating of hot water proof asphalt, and over this a layer of 2 ply asphaltum roofing paper. The top course boards are  $1\frac{1}{2}$  in. thick.

The side and end wall are insulated with 3 layers of  $\frac{1}{2}$  in. insulating material, each layer stitched between 2 layers of 90 lb. water proof insulation paper. Side and end wall insulation extends continuously from floor to ceiling, and from door opening to end of car, across the end, and to door post opposite starting point. One layer of the insulation is applied on the outside of the superstructure frame, over lapping and fastened to the sills and plates. Two courses are applied on the inside of the framing, against the  $\frac{3}{8}$  in. t.&g. sheathing. The outside sheathing consists of standard 13-16 in. t.&g. car sheathing and the inside lining is 13-16 in. t.&g. basswood or spruce. The total thickness through side walls is  $6\frac{1}{2}$  in.

The roof insulation consists of 6 layers of  $\frac{1}{2}$  in. insulation material, each layer stitched between 2 courses of 90 lb. water proof insulation paper. The insulation is applied in one piece between carlines from side plate to side plate. It is applied in 3 double layers, each double layer supported on  $\frac{3}{8}$  in. t.&g. boards. On the top side of the ceiling boards, a layer of 90 lb. water proof insulation paper is applied in one piece, from side to side, and end to end, of car.

**Superstructure Frame**—The principal framing members are B.C. fir, excepting end sills, end posts and end braces, which are of oak or maple. All of the posts and braces are set in cast iron pockets, except the end post and braces, which are set in special cast steel pocket, having a high flange on the outside to prevent lower ends of posts and braces from

springing over the top of the casting. Each casting is bolted directly through the steel end sill flange with 2  $\frac{5}{8}$  in. bolts. This is to prevent the pocket from tipping out, and also to avoid trouble caused by dowels splitting on wooden end sill. Diagonal brace rods are employed at each side frame panel to reduce rocking to a minimum.

The spacing of the carlines coincide with the spacing of meat rack cross supports, and the supporting bolts pass through the carlines, thus avoiding longitudinal blocking, which is undesirable, particularly on account of interference with insulation. Three-quarter in. cross tie rods are applied at alternate carlines. The framing and insulation of the car is so arranged that the roof frame may be assembled on the shop floor, and then placed on edge, while the ceiling boards are applied. This enables the builders to work at all times to the best advantage, which results in good work being done rapidly.

The underframe is of the center carrying type; center sill 30 in. deep at the center portion, composed of web plates  $\frac{1}{4}$  in. thick; top cover plate  $\frac{3}{8}$  x  $26\frac{1}{2}$  in. continuous in one piece from end to end of car; top flange angles are  $3\frac{1}{2}$  x  $3\frac{1}{2}$  x  $\frac{3}{8}$  in.; bottom flange angles are  $3\frac{1}{2}$  x  $3\frac{1}{2}$  x 5-16 in.

The bolsters are of box girder type composed of  $\frac{1}{4}$  in. pressed steel diaphragms, top cover plate  $\frac{3}{8}$  x 18 in. bottom cover plate 9-16 in. x 15 in. The cross bearers are single web girder construction, consisting of  $\frac{1}{4}$  in. pressed steel diaphragms, top cover 7-16 x  $7\frac{3}{4}$  in. Floor beams are 4 in. 8.2 lb. Z bars. Side sills are angles 6 x 4 x  $\frac{3}{8}$  in. The end sill angles are 6 x 4 x 7-16 in. The draft arms are of  $\frac{3}{8}$  in. pressed steel. The center sill bottom cover is of  $\frac{5}{8}$  x  $21\frac{1}{4}$  in. plate. The rear draft lugs are secured to the draft arm and center sill splice, and are also rivetted to the center sill bottom cover. The front draft lugs are designed to receive cast steel coupler striking plate, and cast steel carry iron, the latter is secured by  $1\frac{3}{8}$  in. bolt passing through the lower front corners of the draft lugs. The cast steel striking plate has an extension arm for angle cock bracket, so arranged that the bracket may be located correctly for either 9 $\frac{1}{4}$  or 12 in. coupler heads.

The cars are equipped with friction draft gear, cast steel yokes and 5 x  $1\frac{1}{2}$  in. coupler yoke keys.

The Trucks are C.P.R. standard, 40 ton arch bar type, having simplex bolsters designed to support center pin in the truck bolster. The truck columns are of the Harragin pinless brake beam hanger bracket type. Side bearings are roller type located  $2\frac{1}{4}$  ft. from the center of the car. The tare weights average between 59,000 and 60,000 lb., resulting in a limit load capacity, including ice, of 72,000 to 73,000 lb.

The brake mast is  $1\frac{1}{4}$  in. square, fitted with snow and ice proof ratchet and dog.

Adjustment of brake piston travel is provided on the floating lever fulcrum, making it unnecessary to change adjustment on trucks, after they have been correctly adjusted when car is built, except that variations in dimensions of brake beams and rods applied in renewals, may require the truck levers to be re-adjusted.

The Side Doors are equipped with W. H. Miner fasteners. The threshold plates are of pressed steel, with a shallow shoulder at the inside edge for the stripping on the lower inside edge of door to

close against. The open door fastener consists of a link and bolt arrangement, that cannot become unfastened accidentally. Side door thresholds and all metal work on the interior of the cars are heavily galvanized, by the most reliable known process.

We are indebted to W. J. Robider, General Master Car Builder, C.P.R., for the foregoing article.

### A Station Mistaken for a Fowl House.

It was out in the wild west, and the railway station was not much to boast about. A farmer, new to the place, was expecting a fowl house to reach the local Charing Cross, and he got his dray and trundled off to the station to fetch it.

Arrived there he saw what he took to be his purchase, loaded it on his wagon, and started for home. On the way back he met the stationmaster.

"What the dickens have you got on that dray?" he asked.

"My fowl house, of course," was the reply.

"Fowl house be hanged," was the indignant reply; "that's the station!"

**United States Railway Equipment for Europe**—It is stated that a foreign equipment finance corporation has been organized in the United States, with a capitalization of \$100,000,000, to provide means whereby credits can be arranged for countries in need of equipment. Among those said to be interested are American Locomotive Co., Baldwin Locomotive Works, American Car & Foundry Co. and Standard Steel Car Co.

**Toronto Union Station Privileges**—The Toronto Terminals Ry. Co. invited tenders to Oct. 31 for the restaurant, lunch counter and self-serve rooms, news stands, shoe shine and pay toilet privileges collectively; also separately for barber shop, cigar store, candy store, drug store, haberdashery and soda fountain. Lessees to furnish all special and portable equipment. Tenders to be submitted in two forms; one as an annual rental and the other a percentage of gross receipts.

**Purchases of Timber and Fence Posts for Government Railways**—F. J. Pelletier, M.P., for Matane, Que., asked in the House of Commons recently whether the Government Purchasing Board invited tenders in May, June and July for cedar timbers and fence posts for railways, and if so, whose tenders were accepted and what were the prices, submitted for the different grades of timber? The Minister of Justice replied that purchases for the government railways do not come within the War Purchasing Commission's duties.

**Hudson Bay Ry. Operating**—As stated in Canadian Railway and Marine World for August, the Canadian National Rys. management is operating the Hudson Bay Ry. for the Dominion Government. For operating purposes it is included in Division 2, Prairie District, C.N.R., of which A. E. Macdonald, Dauphin, Man., is Superintendent, the General Superintendent of the district being B. T. Chappell, Saskatoon, Sask. Track is laid from Pas to mile 332, and a mixed train is run bi-monthly to mile 214, leaving Pas on the second and fourth Wednesdays of each month. When business warrants, a train is run occasionally to mile 241.

## Mainly About Railway People Throughout Canada.

**Joseph Orville Adams**, whose appointment as General Eastern Freight Agent, G.T.R., New York, was announced in our last issue, was born at London, Ont., Nov. 21, 1872, and entered railway service Nov. 14, 1887, since when he has been to Apr. 30, 1902, messenger, clerk and chief billing clerk, G.T.R., London, Ont.; May 1, 1902 to Oct. 8, 1903, chief billing clerk, and chief clerk, Import Freight Department, G.T.R., Portland, Me.; Oct. 9, 1903, to Mar. 31, 1904, Agent, Central Vermont Ry., Willematic, Conn.; Apr. 1, 1904, to Feb. 29, 1908, Agent, same road, Barrie, Vt.; Mar. 1, 1908 to Jan. 1, 1915, General Agent, same road, Burlington, Vt.; Feb. 1, 1915, to June 14, 1917, Travelling Freight Agent, same road, Boston, Mass.; June 15, 1917, to Sept. 14, 1919, Commercial Agent, same road, New York.

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

**W. G. Annable**, General Passenger Agent, Canadian Pacific Ocean Services, Montreal, visited the Pacific coast recently.

**E. W. Beatty, K.C.**, President, C.P.R., was installed as Chancellor of Queen's University, Kingston, Ont., Oct. 16, which was his 42nd birthday.

**Ralph Budd**, who has been appointed President, Great Northern Ry., St. Paul, Minn., was born at Waterloo, Ia., Aug. 20, 1877, and entered railway service in 1899, since when he has been, to 1902, consecutively draftsman, rodman, levelman, instrument man and Assistant Engineer, Chicago Great Western Ry.; 1902 to 1905, successively Roadmaster, General Superintendent of Construction, and Division Engineer, St. Louis Division, same road; 1905, Division Engineer, same road, Chicago, Ill.; 1906 to 1909, Chief Engineer, Panama Rd., Colon, Panama; 1909 to 1910, Chief Engineer, Oregon Trunk Ry.; 1910 to May 1, 1914, also Chief Engineer, Spokane, Portland & Seattle Ry.; 1911 to Jan. 1, 1913, also Chief Engineer, Spokane & Inland Empire Ry., and Spokane Traction Co.; Jan. 1, to Feb. 15, 1913, Assistant to President, Great Northern Ry., St. Paul, Minn.; Feb. 15, 1913, to May 1, 1914, Chief Engineer, same road; May 1, 1914, to Feb., 1918, Assistant to President, same road; Feb., 1918, to Oct., 1919, Executive Vice President, same road.

**Fred J. Buller**, who has resigned the position of Local Treasurer, Eastern Lines, Canadian Northern Ry., Toronto, and has been appointed Vice President, Canadian Steel Tire and Wheel Co., Montreal, was born at Lindsay, Ont., Jan. 30, 1875, and entered transportation service in Sept., 1893, since when he has been, to Oct., 1896, messenger, Canadian Express Co.; Nov., 1896, to June, 1899, clerk, same company, Toronto; June, 1899, to July, 1901, clerk and relieving cashier, Dominion Express Co., Winnipeg; July, 1901, to Dec., 1902, clerk and timekeeper, General Superintendent's office, Canadian Northern Ry., Winnipeg; Dec., 1902, to Nov., 1906, cashier, same road, Toronto; Nov., 1906, to Jan., 1919, Cashier and Paymaster, same road, Toronto; Jan., to Oct., 1919, Local Treasurer, Eastern Lines, Canadian Northern Ry., Toronto. On Oct. 7, the Canadian National Rys. general office officials gave him a solid silver tea service, the pres-

entation being made on their behalf by D. B. Hanna, President.

**E. J. Chamberlin**, formerly President G.T.R., and G.T.P.R., and Mrs. Chamberlin, have left Ottawa for California to spend the winter.

**Captain Michael Chapman**, of the 4th Grenadier Guards, formerly of Chapman and Walker Ltd., electrical supplies, etc., Toronto, who was killed in France, Apr. 12, 1918, left an estate valued at \$41,969.

**Mrs. Cochrane**, widow of the late Hon. Frank Cochrane, M.P., ex-Minister of Railways, and Miss Edith Cochrane, have returned to Ottawa, and are at the Roxborough for the winter.



Hon. F. B. Carvell, K.C.  
Chief Commissioner, Board of Railway Commissioners for Canada.

**D. C. Coleman**, Vice President, Western Lines, C.P.R., and Mrs. Coleman, entertained at dinner, at their house in Winnipeg, Oct. 13, the British newspaper correspondents accompanying the Prince of Wales.

**D. C. Coleman**, Vice President, Western Lines, C.P.R., who was mentioned in Canadian Railway and Marine World for October, as confined to his house in Winnipeg, as the result of an accident, was able to visit headquarters at Montreal towards the end of October. The accident occurred on the Edmonton, Dunvegan & British Columbia Ry., 3 miles east of Spirit River, Alta., on Sept. 23. Accompanied by Sir Augustus Nanton, one of the C.P.R. directors, and W. R. MacInnes, Vice President, Traffic, C.P.R., he was riding on a gasoline motor driven section car, at about 12 or 13 miles an hour, when, probably owing to the condition of the track, it left the rails, and he was thrown off, sustaining a bruised and sprained leg, some cuts about the head, arm and leg, and some of the bones in his right hand were crushed.

He was confined to his house for some 10 days, but has now practically recovered, except that his right hand is still hardly up to its normal service. Sir Augustus Nanton and Mr. MacInnes were not injured.

**W. J. Cowan**, who died suddenly, Oct. 21, at Cannington, Ont., where he was conducting his election campaign as Unionist candidate for North Ontario, for the House of Commons, spent much of his time in the west, where he was concerned with numerous contracts on the C.P.R., Canadian Northern Ry., and Grand Trunk Pacific. He was 69 years of age, and was born in Brock Tp., Ont. He retired from the contracting business a short while ago, and took a farm in Northern Ontario.

**Granville C. Cunningham, M.Inst.C.E.**, who has recently written a book, "Wake up England," was born in Edinburgh, April 27, 1847, his professional and business record being as follows: 1870-71, railway service in Honduras; 1871-1874, various railway works in Ontario; 1874-1875, preliminary surveys for Canadian Pacific Ry.; 1875-79, Engineer in Charge, Prince Edward Island Ry. and of harbors in the island; 1879-1881, on Canada Southern Ry.; 1881-83, Chief Engineer, Canada Southern Ry.; 1884-86, General Assistant to Manager of Construction, Rocky Mountain Division, Canadian Pacific Ry. (Jas. Ross), 1886-89, railway construction in Lower Canada; 1889-1892, Assistant City Engineer and City Engineer, Toronto; 1892-1897, General Manager and Chief Engineer, Montreal St. Ry.; 1897-99, Managing Director, City of Birmingham Tramways. In 1899 he was appointed General Manager, Central London Ry. In 1895 he published "Imperial Federation," and in 1911, "Bacon's Secret Disclosed."

**Sir Henry Drayton**, Minister of Finance, and formerly Chief Railway Commissioner for Canada, has been elected by acclamation as M.P. for Kingston, Ont.

**G. Herrick Duggan, C.E.**, President, Dominion Bridge Co., Montreal, has been given an honorary degree by Queen's University, Kingston, Ont.

**F. P. Gutelius**, Federal Manager, Delaware and Hudson Rd. (U.S.R.A.), and formerly General Manager, Canadian Government Rys., visited Quebec in October and went over the Quebec and Saguenay Ry., the Louise docks and railway properties along the St. Lawrence River.

**Mrs. D. B. Hanna**, wife of the President, Canadian National Rys., and her two daughters, visited Winnipeg and Portage La Prairie, Man., in October.

**W. D. Harris**, who died at Ottawa, Sept. 28, aged 72, was born in England, and came to this continent in early childhood. He graduated at Boston, Mass., in 1872, with the degree of B.Sc., and devoted himself to railway engineering work. He was associated with the Intercolonial Ry., C.P.R., Quebec, Montreal, Ottawa and Occidental Ry., and was subsequently Managing Director and Chief Engineer, Ottawa and Gatineau Valley Ry., and Pontiac Pacific Jct. Ry., and resigned those positions in 1896 on his appointment as President, Montreal Terminals Ry., retaining that position until 1901.

**William Smith Harrison**, who has been

appointed Auditor of Revenue, G.T.R., Montreal, was born at Gresley, Eng., Apr. 3, 1880, and entered G.T.R. service in 1899, since when he has been, to 1900, junior clerk, Mimico, Ont.; 1900 to 1904, operator and relieving agent, Middle and Northern Division; 1904 to 1908, agent, Campbelford, Ont.; 1908 to 1910, Travelling Auditor, Montreal; 1910 to 1913, in office of Auditor of Revenue, Montreal; 1913 to 1918, chief clerk, same office; 1918 to Sept. 25, 1919, Assistant to Auditor of Revenue, Montreal.

Lady Hickson, widow of Sir Jos. Hickson, formerly General Manager G.T.R., has returned to Montreal, after spending some time at Woodstock, Vermont.

W. A. James, Assistant Chief Engineer, C.P.R., Western Lines, Winnipeg, visited Montreal, towards the end of October, with D. C. Coleman, Vice President, Western Lines.

G. C. Jones, Assistant to President, G.T.R., Toronto, has removed his office from 53 King St. West to Royal Bank Building, corner King and Yonge Sts.

Miss Evelyn MacInnes, second daughter of W. R. MacInnes, Vice President, Traffic, C.P.R., is announced as engaged to Capt. R. Bruce Reford, M.C., Irish Guards, A.D.C. to the Lord Lieutenant of Ireland, and elder son of R. Wilson Reford, of the Robert Reford Co., ship owners, etc., Montreal.

T. A. Magee, Contracting Freight Agent, Great Northern Ry., Vancouver, has resigned and entered real estate business with his father at Tacoma, Wash.

James Bower McLaren, who has been appointed General Auditor, G.T.R., Montreal, was born at Perth, Ont., Mar. 5, 1878, and entered transportation service Dec. 26, 1892, since when he has been to May, 1898, clerk, Freight Department, G.T.R., Brockville, Ont.; May to Nov., 1898, accountant, Canada Atlantic Transit Co., Canadian Atlantic Ry.; Nov., 1898 to Sept., 1901, accountant, cashier, chief clerk, agent, and General Yardmaster, consecutively, G.T.R., Durand, Mich.; Sept., 1901 to Aug., 1913, clerk, travelling auditor, assistant chief clerk, consecutively, Audit Department, G.T.R., Montreal; Aug., 1913, to Jan., 1916, Auditor of Freight Accounts, G.T.R., Montreal; Jan., 1916, to Sept. 25, 1919, Auditor of Revenue, G.T.R., Montreal. In 1916 he was elected a member for 3 years of standing committee on passenger accounts, Railway Accounting Officers' Association.

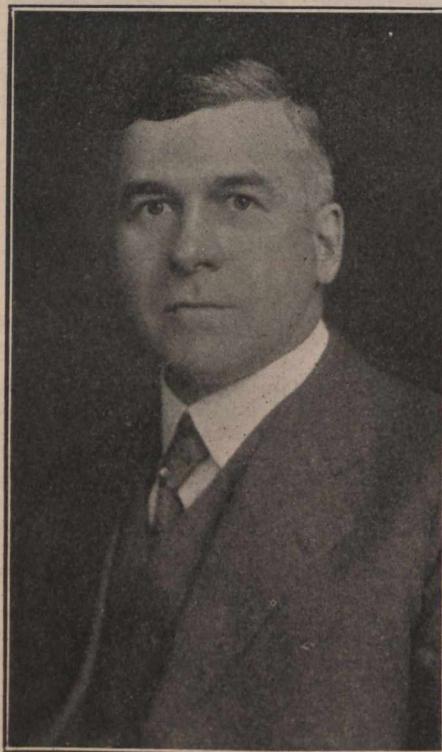
Jas. Murdock, of Toronto, who has been appointed a member of the Dominion Board of Commerce, was born at Brighton, Eng., Aug. 15, 1871, of Scottish parentage. He came to Canada in 1875 and was brought up on a farm in Kent County, Ont., until the spring of 1890, after which his record was as follows: April 18, 1890 to Sept. 1, 1890, ballast pit laborer, C.P.R., London, Ont.; Sept. 15, 1890 to June 12, 1902, freight brakeman, C.P.R., London, Ont.; June 12, 1902, to July 31, 1905, freight conductor, C.P.R. His labor union record is as follows: 1895 to July 31, 1905, local and general chairman for C.P.R. employes, represented by Brotherhood of Railroad Trainmen; Aug. 1, 1901 to July 31, 1905, member board of trustees for Brotherhood of Railroad Trainmen (international organization); Aug. 1, 1905, to date, Vice President, Brotherhood of Railroad Trainmen. On Aug. 7, 1918, he was appointed a member of Canadian Board of Adjustment No. 1, which deals with disputes between railways and their

employes, in regard to wages, working conditions, etc.

J. M. Rosevear, who has been appointed Comptroller, G.T.R., Montreal, was born at St. Lambert, Que., Aug. 9, 1869, and entered G.T.R. service in 1897, since



J. M. Rosevear,  
Comptroller, Grand Trunk Railway.



J. B. McLaren,  
General Auditor, Grand Trunk Railway.

when he has been, to 1905, clerk in Accounting Department; 1905 to 1907, travelling accountant; 1907 to Sept. 1, 1908, chief clerk to Auditor of Disbursements; Sept. 1, 1908 to Oct., 1918, Auditor of Disbursements; Oct., 1918 to Sept. 25, 1919, General Auditor, and,

also General Auditor, Grand Trunk Pacific Ry.

J. K. Savage, who has been appointed acting General Superintendent, Quebec District, C.P.R., during the absence on leave of J. M. Woodman, General Superintendent, was born at Forreston, Ill., Oct. 5, 1876, and entered C.P.R. service, Mar. 1, 1890, since when he has been, to May 1, 1894, station agent at various points in Quebec; May 1, 1894, to May 24, 1897, dispatcher, Farnham, Que.; Jan. to Sept., 1904, Night Chief Dispatcher, Toronto; Sept., 1904, to Sept., 1906, Inspector Train Dispatching, Western Lines, Winnipeg; Sept., 1906, to Mar. 1, 1907, Chief Dispatcher, District 1, Central Division, Kenora, Ont.; Mar. 1, 1907, to Dec., 1908, Trainmaster, District 3, Central Division, Brandon, Man.; Dec., 1908, to Jan. 1, 1912, Chief Dispatcher, District 3, Central Division, Brandon, Man.; Jan. 1, 1912, to Jan. 1, 1917, Superintendent, Regina Division, Saskatchewan District, Regina; Jan. 1, 1917, to Oct. 15, 1918, Superintendent, Smiths Falls Division, Quebec District, Smiths Falls, Ont.; Oct. 15, 1918, to Oct. 3, 1919, Assistant General Superintendent, Ontario District, Toronto.

Edmund James Semmens, whose appointment as Travelling Agent, Colonization and Development Department, C.P.R., Calgary, Alta., was announced in our last issue, was born at Liverpool, Eng., Dec. 2, 1877, and entered C.P.R. service in June, 1912, since when he has been, to Dec., 1912, clerk, Tie and Timber Branch; Jan., 1913 to July, 1917, stenographer and clerk, Industrial Branch; Aug., 1917 to Aug. 31, 1919, chief clerk to Industrial Agent, all at Calgary, Alta.

Hope Erskine Scott, son of J. G. Scott, formerly General Manager, Quebec & Lake St. John Railway, and Great Northern Ry. of Canada, who was married in Hamilton, Ont., Oct. 11, to Miss Pauline L. Grant, daughter of W. J. Grant, District Freight Agent, C.P.R., there, was formerly Assistant Auditor, Quebec & Lake St. John Ry., Quebec, Que. He went overseas as lieutenant in the 12th Mounted Rifles of Hamilton, and is now a railway supply broker in Montreal.

The Hon. W. J. Shaughnessy will entertain the Prince of Wales at dinner, at Lord Shaughnessy's house in Montreal, Nov. 1, and Lady Shaughnessy will give a ball afterwards.

Harry Gilmour Smith, B.Sc., A.M.E.I.C., Engineer and Superintendent of Concrete Construction, Dominion Construction Co., Toronto, who had charge of work being done by the company on the Canadian National Rys., from Parry Sound north for some 40 miles, was burned to death near Bolger, Ont., Oct. 9, in a collision between a construction train and a freight train. He was in the construction train conductor's van, which was wrecked, and destroyed by fire. He was born at St. Martins, N.B., May 4, 1884, was educated at St. Martins Superior School, and graduated at the New Brunswick University, his professional record being as follows: May, 1911-Mar., 1912, transitman on location, Eastern Lines, Canadian Northern Ry.; 1912-1913, in charge of location party, Toronto Suburban Ry.; 1913-1916, Resident Engineer on construction, Toronto Suburban Ry.; during winter and spring of 1915-1916, in charge of construction of Humber River bridge, Toronto Suburban Ry. Subsequently he was engaged on the construction of the Rosedale Ravine viaducts, Toronto, C.P.R.

Lady and Miss Van Horne have returned to Montreal, after spending the summer at Covenhoven, St. Andrews, N.B.

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

J. B. Way, who, having been released from military duty, has resumed his former position as freight and ticket agent, C.P.R., Union Station, Sault Ste. Marie, Ont., which position has been filled during his absence by W. H. Pomeroy, was born at Port Hope, Ont., Dec. 10, 1865. He entered C.P.R. service as operator, at Ottawa, Feb. 18, 1884, since when his record with that company has been as follows: Feb. 27, 1884 to Nov. 14, 1889, agent and operator, Thorncliff, Ont.; Nov. 14, 1889 to April 14, 1890, agent and operator, Thessalon, Ont.; April 14, 1890 to Oct. 14, 1890, train dispatcher, Algoma, Ont.; Oct. 14, 1890 to Nov. 21, 1891, train dispatcher, Webbwood, Ont.; Nov. 21, 1891, to Nov. 14, 1892, train dispatcher, North Bay, Ont.; Nov. 14, 1892 to June 7, 1893, agent, Sudbury Jct., Ont.; June 7, 1893 to Nov. 14, 1893, train dispatcher, North Bay, Ont.; Nov. 14, 1893 to Mar. 15, 1915, freight and ticket agent, Sault Ste. Marie, Ont. His military record is as follows: Nov. 15, 1913, gazetted honorary lieutenant 51st Regiment; Jan. to Mar., 1914, attended P.S.I. at Sault Ste. Marie, and qualified for rank of captain; Aug. 4, 1914, called out for service with details of regiment to protect ship canal, International Bridge wireless station and government buildings at Sault Ste. Marie; Dec. 15, 1914, promoted to honorary captain; July 17, 1918, transferred to Machine Gun Corps, Camp Niagara; Oct. 15, 1918, transferred to C.A.P.C., with rank of captain; Jan. 9, 1919, appointed Paymaster, Parade Section, no. 2 District Depot, Exhibition Camp, Toronto; Apr. 10, 1919, appointed Paymaster no. 2 Recruiting Depot, Permanent Force, Toronto; July 11, 1919, struck off strength on demobilization. His eldest son, Lieut. J. H. Way, of the 58th Battalion, was killed in action in France.

### Freight and Passenger Traffic Notes.

The Canadian Railway War Board directed the abandonment of daylight saving by Canadian Railways Oct. 26, at 2 a.m., when the hands of the clocks were put back to 1 a.m., standard time.

The Grand Trunk Pacific Ry. will, it is reported, start early in November a through sleeping car service between Regina, Sask., and Prince Rupert, B.C., eliminating the present change of cars at Melville, Sask.

The Quebec, Montreal and Southern Ry.'s standard maximum passenger tariff C.R.C. 274, effective Oct. 19, increasing its passenger rates from 3.45c to 4c a mile has been approved by the Board of Railway Commissioners.

Grand Trunk Pacific Ry. freight and passenger officers met at Edmonton, Alta., Oct. 6 and 7, under the chairmanship of A. E. Rosevear, General Freight Agent, Winnipeg, to discuss traffic conditions and prospects on the line.

The G.T.R. has been ordered by the Board of Railway Commissioners, on the complaint of the Eastern Townships Associated Boards of Trade, to restore its

passenger train known as the "Scoot," between Richmond and Sherbrooke, Que., from Oct. 20, 1919 to May 1, 1920.

The Greater Winnipeg Water District Ry. station and general offices were moved Oct. 1, to the St. Boniface water works yard, corner of Rue Plinquet and Dawson Road. A mixed passenger and freight train is run from St. Boniface at 10.30 a.m. Tuesdays and Fridays, returning from Shoal Bay at 2.30 p.m., Wednesdays and Fridays.

The Canadian National Rys. started on Oct. 5 a daily transcontinental train from Toronto to Vancouver, and Victoria, B.C. The train leaves Toronto at 9.15 p.m., and consists of sleeping, dining, first class day, tourist, and colonist cars. Between Toronto and Winnipeg a compartment observation library car is run, and a parlor car is attached for the run through the Rocky Mountains.

The car ferry steamship's winter schedule between Tormentine, N.B., and Borden, P.E.I., went into effect Oct. 5. The s.s. Prince Edward Island makes one trip a day in either direction, leaving Borden at 9.15 a.m. and Tormentine at 3 p.m., daily except Sundays. Passengers travelling by the Ocean Limited, in either direction, connect with the ferry service.

The Edmonton, Dunvegan and British Columbia Ry. is reported to have handled 141 cars of freight outgoing, and 42 cars of freight incoming at Edmonton, Alta., during the week ended Sept. 27. During the same week it is reported to have carried 675 passengers from Edmonton into the north country. Under the government plan for carrying cattle free from the drought area to the north the company is stated to have hauled over 100 cars of live stock.

W. R. MacInnes, Vice President Traffic, C.P.R.; Major W. M. Kirkpatrick, M.C., Assistant Freight Traffic Manager, Western Lines, C.P.R., Winnipeg, and H. W. Brodie, General Passenger Agent, C.P.R., Vancouver, arrived in Victoria, B.C., Oct. 3, to make a tour of the section of Vancouver Island, served by the Esquimalt and Nanaimo Ry., which is owned by the C.P.R. It is reported that the company is planning to develop tourist traffic to the island, and that with that object in view, ferry connection between Victoria and Port Angeles, Wash., will be provided.

The Dominion Atlantic Ry. put into operation, Oct. 15, a triweekly express passenger train between Halifax and Yarmouth, N.S. The trains leave Yarmouth at 9 p.m. Mondays, Wednesdays and Saturdays, reaching Halifax at 8.30 a.m. on the following mornings, and leave Halifax at 9 p.m., Sundays, Tuesdays and Fridays, reaching Yarmouth at 8.30 a.m. on the following mornings. The westbound train stops at Windsor, Wolfville, Kentville, Middleton and Digby, and the eastbound train in addition to the above stops at Weymouth.

The Canadian National Rys. on Oct. 1, opened for traffic the recently completed section of the St. John and Quebec Ry. from Gagetown, N.B., to junction with the C.P.R. at Westfield, N.B., by putting on a through passenger train service between Quebec and St. John. One train a day is operated in each direction. The train leaves Palais Station, Que., at 3.45 p.m., Tuesdays, Thursdays and Saturdays, and runs on the National Transcontinental Ry. to McGivney Jct., then on the old Canada Eastern Ry. section of the Intercolonial Ry. to Fred-

erickton, then on the St. John and Quebec Ry. to Westfield, and over the C.P.R. into St. John, reaching there at 3.05 p.m. on the following days. The equipment consists of buffet, sleeping, parlor and first and second class cars. The train from St. John leaves the C.P.R. station at 1.55 p.m. Tuesdays, Thursdays and Saturdays, and reaches Quebec at 11 a.m. on the following days. An additional train is run in either direction on Mondays, Wednesdays and Friday between St. John and McGivney Jct., connecting there with the regular National Transcontinental Ry. trains.

### Movements of Troops, Etc., by Canadian Railways and Steamships During the War.

Major-General J. Lyons Biggar, Quartermaster General, has addressed the following memorandum to the Minister of Militia: Now that demobilization is virtually completed, I would like to call your attention to the admirable services which have been rendered by the railway and steamship companies, during the war. All have given their best attention to make a success of the various movements. During the entire period of the war we had only 3 casualties. The following is the number of troops which have been carried by the various railways:

Canadian Pacific Railway.		
	Mobilization	Demobilization
Canadian troops.....	153,826	175,567
United States troops.....	54,810	.....
Chinese coolies for overseas.....	81,530	.....
French battalion, Serbian, Montenegrin and Polish reservists	16,103	.....
Imperial troops.....	.....	9,032
Total .....	306,269	184,599

Grand Trunk Railway.		
	Mobilization	Demobilization
Canadian troops.....	200,273	105,259
United States troops.....	118,180	.....
Total .....	318,453	105,259

Canadian National Railways.		
	Mobilization	Demobilization
Canadian troops .....	339,172	267,436
United States troops.....	5,843	.....
Total .....	345,015	267,436

We certainly owe a debt of gratitude to the merchant marines for the attention and care that the officers of the ships have taken to safeguard our men. The numbers carried by the various steamship companies are as follows:

Canadian Pacific Ocean Services.		
	Eastbound	Westbound
Canadian troops.....	121,097	80,811
United States troops.....	18,407	2,120
Chinese coolies.....	37,034	3,120
Prisoners of war.....	1,424	.....
Total .....	177,962	86,051

Cunard-Anchor-Donaldson Line.		
	Eastbound	Westbound
Canadian troops .....	90,419	91,188
United States troops.....	25,396	.....
Imperial troops, Belgian, Montenegrin and Serbian reservists .....	11,846	.....
Newfoundlanders .....	695	.....
Total .....	131,648	92,933

White Star Dominion Line.		
	Eastbound	Westbound
Canadian troops .....	176,284	84,177
United States troops.....	12,999	.....
Chinese coolies .....	.....	15,410
Total .....	189,283	99,587

## Canadian National Railways Construction, Betterments, Etc.

## Canadian National Railways Receipts and Disbursements.

**Organization of Company**—Sir James Lougheed, replying to a question in the Senate, Oct. 9, said the organization of the Canadian National Rys. Co., had not been completed under the provisions of the act passed last session of parliament. The operation, further extension, and construction of its competent railways is being carried on under the powers of the act, as to some of the lines authorized in so far as the act extended the time for construction.

**Halifax-Moncton Line**—A press report states that among the projects in contemplation is the electrification of a line between Halifax, N.S., and Moncton, N.B., the work to include the erection of a large power house at Maccan, Cumberland County, N.S. A similar report was current some time ago, but was denied.

**New Glasgow Station**—The extension to be built to the New Glasgow, N.S., station, for which tenders were invited recently, is to consist of a 2 story brick building, 41 x 30 ft., with slate roof. The interior of the present building is to be remodelled.

**Levis Station**—Replying to a question in the House of Commons, recently, the Minister of Railways said the government had decided to expend \$125,000 on repairs and improvements in connection with Levis, Que., station. There had been expended to Sept. 25, about \$10,000 and it was anticipated that, if no further delays occurred on account of lack of material, the building would be completed by Dec. 15.

**Cedar Lake Outlet Bridge**—The Board of Railway Commissioners has authorized the rebuilding of the bridge at Cedar Lake Outlet, Que., mile 134, from Quebec.

**Jacques Cartier River Bridge**—Tenders were received recently for boring for the foundations for the projected bridge over the Jacques Cartier River, at Donnacona, Que., mile 31.4, from Quebec, on the Canadian Northern Quebec Ry. The contractor will be required to bore one hole at each of the 5 piers.

**Pike Creek Bridge, Weir, Que.**—The Board of Railway Commissioners has authorized the rebuilding of the bridge over Pike Creek at Weir, Que., mile 40.20 from Rinfret Jct.

**Bridges Near Montreal.** H. Deslauriers, M.P., for St. Marys, Montreal, asked in the House of Commons recently, if the government was aware that the two C.N.R. bridges, which unite Montreal to Charlemagne, are very dangerous, and that every day automobiles and other vehicles were breaking through the pavement. The Minister of Railways replied that the roadways of the bridges had been inspected, and temporary repairs made, and that sufficient materials had been ordered to redeck the bridges.

**Moirs River Bridge, Stoco Lake, Ont.**—The Board of Railway Commissioners has authorized the rebuilding of the bridge over the east channel of the Moira River, Stoco Lake, Hungerford Tp., mile 31.75 miles from Yarker, Ont., on the Kings-ton-Bannockburn line.

**Toronto-Capreol Line**—The Board of Railway Commissioners has authorized the rebuilding of the bridge across Talbot River, in Mara and Thorah Tps., Ont., 67 from Toronto, near Gamebridge, Ont., on the Toronto-Capreol Line.

The Board of Railway Commissioners

has authorized the rebuilding of the bridge across Bolger Creek, Burton Tp., Parry Sound district, mile 26.8.

**Western Lines Under Construction**—Sir Jas. Lougheed stated in the Senate, Oct. 22, in reply to questions by Senator Bostock that the following lines of railway, the building of which was authorized by the statute 9-10 George V, chap. 13, schedule 2, are being built, Manitoba—Winnipegosis, southerly, contractors, J. W. Stewart & Co. Saskatchewan—Lampman-Peebles, between Brandon, Regina and Maryfield lines; contractor, Canadian Construction Co.; Swift Current-Gravelbourg, contractors, Gibbs Bros.; Humboldt-Melfort, contractors, J. W. Stewart & Co.; Melfort, northeasterly, contractors, J. W. Stewart & Co., Luck Lake (Dumblane southwesterly), contractors, Western Construction Co.; Acadia Valley (Eston westerly and Alsask southerly), contractors, Grant Smith & Co., Eston southeasterly; contractors, J. W. Stewart & Co.; Turtleford northwesterly, contractors, Western Construction Co.; Thunderhill branch, contractors, Western Construction Co., Thunderhill branch, contractors, Canadian National Rys., Alberta; Oliver northeasterly, St. Paul de Metis, contractors, J. W. Stewart & Co.; Hanna-Medicine Hat, contractors, Canadian Construction Co.; Onoway (Peace River), contractors, Canadian National Rys., British Columbia; Kamloops-Kelowna and Lumby, contractors, J. W. Stewart & Co. Land which has to be acquired in connection with any of these lines is being acquired under the clauses of the general Railway Act.

**Maryfield Branch**—Tenders have been received for grading and building culverts on the Maryfield Branch, from Bengough, Sask., westerly for 17 miles.

**Prince Albert Locomotive House**—Tenders have been received for the erection and completion of a 3-stall addition to the locomotive house at Prince Albert, Sask.

**Moose Jaw Subway and Freight Shed**—Tenders have been received for the excavation for the projected subway at Athabasca St., Moose Jaw, Sask. The permission for the building of a temporary subway was granted by the city council, Oct. 2, the railway to have the permanent subway completed in the autumn of 1920.

Tenders have been received for the erection of a freight shed with offices at Moose Jaw, Sask.

**Switching Track at Tripp Station, B.C.**—The Board of Railway Commissioners has authorized the building of an inter-switching track to connect the Canadian Northern Pacific Ry. tracks at Tripp station, Vancouver Island, B.C., with the British Columbia Electric Ry.'s Saanich Peninsula line. Plans for the track, which is to be built by the C.N.P.R., by arrangement between the two companies, have been filed with the B.C. Railways Department. (Oct., pg. 545).

The Canadian National Rys. put in operation on Oct. 23 a through sleeping car service between Sydney, N.S. and Montreal. The sleeping car is attached to no. 8 express from Sydney, and is transferred to the Ocean Limited at Truro. It returns by the Ocean Limited to Truro, where it is transferred to no. 7 express for Sydney.

Sir James Lougheed gave the following information in the House of Commons, Sept. 30, in answer to an enquiry by Senator McSweeney, Moncton, N.B., the figures being for the year ended March 31, 1919:

Total receipts from Intercolonial Ry., so called, \$26,435,343.68; disbursements, \$28,239,506.89.

Receipts from National Transcontinental Ry., from Quebec to Winnipeg, \$7,283,488.19; disbursements, \$8,549,803.06.

Receipts from Prince Edward Island Ry., \$741,514.58; disbursements, \$1,596,049.91.

Receipts and disbursements of the car ferry steamship Prince Edward Island, are not kept separately, but are included in the Prince Edward Island Ry. receipts and disbursements.

The Minister of Railways gave the following information in the house of Commons, Oct. 9, in answer to an enquiry by J. A. Robb, M.P. for Chateauguay, Huntingdon, Que. From Jan. 1 to Aug. 1, 1919, the Canadian National Rys. gross earnings were \$50,730,974.94, the deficit being \$9,041,464.62.

The Canadian National Rys. total interest paying debt is \$460,225,148.93. The amount of interest payable on the debt annually is \$19,073,387.08.

## Canadian Ticket Agents' Association's Annual Meeting and Excursion.

The C.T.A.A. annual meeting in Toronto, Sept. 23, was attended by 140 members. The following officers were elected: President, J. Ransford, G.T.R., Clinton, Ont.; 1st Vice President, J. A. McDonald, Valleyfield, Que.; 2nd Vice President, A. C. Rorabeck, G.T.R., North Bay, Ont.; 3rd Vice President, C. G. Millard, C.P.R., Coldwater, Ont.; Secretary-Treasurer, E. de la Hooke, London, Ont.; Executive Committee, W. Jackson, C.P.R., Clinton, Ont.; A. M. Hare, G.T.R., Tillsonburg, Ont.; C. B. Jones, C.P.R., Orillia, Ont.; W. H. C. Mackay, C.P.R., St. John, N.B.; W. J. Moffatt, G.T.R., Toronto.

On Sept. 24, a considerable number of the members, many of them accompanied by their wives, the party numbering 115, left Toronto at 10 am. by G.T.R. special train for Muskoka Wharf, where they embarked on a Muskoka Navigation & Hotel Co.'s steamboat, and went through Lakes Muskoka and Rosseau to the Monteith House, where they dined, had a ball, and stayed the night. Sept. 25 was spent on Lakes Rosseau and Joseph, and on Sept. 26, they arrived back in Toronto in the afternoon.

**Far Eastern Markets for Railway Materials, Equipment and Supplies**—The Bureau of Foreign and Domestic Commerce, U.S. Department of Commerce, has issued a 339 page book under this title, by Frank Rhea, Trade Commissioner, containing a report on the markets for railway materials, equipment and supplies, in China, Japan, Korea, Manchuria and the Phillipine Islands, which contains a large amount of important information about the railways in those countries, and the possibilities for selling to them. It can be obtained from the Superintendent of Documents, Government Printing Office, Washington, D.C., price 35c.



November, 1919.

## Quebec, Montreal and Southern Railway Authorized to Advance Passenger Rates to Four Cents a Mile.

S. J. McLean, Assistant Chief Commissioner, Board of Railway Commissioners, gave the following judgment Sept. 17: Application is made for increase in the Quebec, Montreal & Southern Ry.'s standard passenger fares. The present standard is 3.45c. It is desired to increase it to 4c. A large amount of statistical detail has been submitted bearing on the condition of revenues and expenses of the railway. At the hearing, information was submitted covering the situation until the end of Nov., 1918. It seemed proper to let the matter stand until further information showing the conditions existing during the present year could be adequately presented. During 1918, there was, as indicated below, a very considerable increase in freight revenues. This was due to war conditions, the item of coal tonnage being a matter of importance. The traffic was not a regular one and it was, therefore, justifiable to have before the board a situation in which the traffic was more normal, and to consider costs in connection with the handling of such more normal traffic.

The railway has 191 miles of main line. The application being one relating to passenger fares and concerned with the costs of the passenger traffic, this phase of the situation must have special attention directed to it. At the same time, an analysis of general revenues and expenses is of value as showing the condition of the road. The railway has not during the last five years or more, given any return upon the capital invested in it. The whole question has been one of whether operating revenues would meet operating expenses. It was stated at the hearing that the railway had not at any time made any return upon the capital invested. This being so, in the analysis which is made all reference is omitted to return on capital invested. That is not to say that the latter is not a legitimate factor to consider in connection with rate matters. It manifestly is. At the same time, it should be pointed out that the contention of the railway did not direct itself to the matter of returns upon capital; it concerned itself with the allegation that there should be a closer approximation between operating revenues and operating expenses. A statement of the investment in the road and equipment submitted by the railway as of Sept. 30, 1918, gives a total of \$7,554,656, being made up of investment in road, \$5,634,602, investment in equipment \$1,920,003. Fractional amounts are omitted. In order to understand the general situation of this line, the period from 1913 is taken. At the hearing, returns were submitted showing the condition by fiscal years down to 1917, and showing an average annual deficit during this period of \$70,000. Figures have also been submitted for the calendar years down to 1918, and detail has been supplied for the first seven months of 1919. In order to have the detail comparable, the following comparisons are based on the calendar year, are made:

	1913	1914	1915	1916	1917	1918
Operating revenues .....	\$406,467	\$397,632	\$349,669	\$429,928	\$561,990	\$786,129
Operating expense .....	409,372	473,416	460,540	474,464	597,919	787,264
Taxes .....	8,316	7,874	8,513	7,996	9,024	8,263
Deficit .....	\$ 92,221	\$ 83,658	\$119,383	\$ 52,532	\$ 44,953	\$ 9,398

The result is a deficit of \$402,145 on operating revenue for the period in ques-

tion, an average annual deficit of \$37,000. But comparatively it cost from 101c to earn \$1 in 1918, to 134c in 1915. On an average, it cost 113c to earn \$1 during the whole period in question. While in 1918 there was an increase of \$224,139 in operating revenues, this was due to increase in freight revenues, the increase in this item being \$249,474. There was a decrease in passenger revenues. The passenger revenue in 1918 was \$133,015 for tickets and excess baggage. If all services giving a revenue on passenger trains are included, it gives a total of \$154,296. If the first of these headings is taken, 1918 was \$33,696 less than 1917; while if the second is taken it was \$29,525 less. If 1917, which showed the highest passenger revenues in the period in question, is omitted, the following averages are available:

Average ticket and excess baggage revenue, 1913-16.....	\$145,720
Actual ditto for 1918.....	133,015
Average all passenger train service revenue, 1913-16.....	161,026
Actual ditto for 1918.....	154,296

As already indicated, a material factor to be considered in the analysis is the question whether with any change in the volume of freight traffic, due to a falling off in a commodity movement diverted to this railway because of war conditions, there thereafter continues increased or increasing costs attributable to conditions arising during the war. The test of this is to be found in the conditions shown during 1919. An analysis by months from Jan. to July, 1919, the amounts giving being exclusive of taxes, shows that the operating expenses were \$447,272.47, and the operating revenue \$325,038.17, a deficit of \$152,234.30. This computation is exclusive of taxes. This being a necessary cost, there should be considered the proportionate amount of taxes chargeable against the seven month period in question. The taxes during the period 1913-1918 averaged \$8,331 a year. Allocating seven-twelfths of this to the period in question would give \$4,851. Adding this, operating expense exceeded operating revenue by \$157,0885 during the seven month period in question. Exclusive of allocated taxes, it took in Jan. 107c to earn \$1 of revenue, while in March it took 197c to earn \$1. The average operating ratio for the period in question was 147%, that is, it cost 147c to earn \$1. Including allocated taxes for the seven months period, it cost 148c to earn \$1.

A large amount of detail was submitted bearing on the increases in labor cost. The Q, M. & S.R. has been subject to the same general increases in this respect as other railways in Canada, and it is not, therefore, necessary to pursue this phase of the analysis further. It is further pointed out that the railway involved was, in common with other smaller railways, on a lower scale of wages than the standard lines, prior to the McAdoo award; and that the application of this award, and the additional wage increases which have since accrued, subject the railway to a higher percentage increase

than falls on the larger roads. To understand the significance of the wage

and salary cost, the following summary is illustrative: the years 1913 to 1918 as quoted are for years ending June 30, the figures for 1919 being for the seven month period, Jan.-July. The amounts out of every \$1 earned that went to wages and salaries were as follows: 1919, 87c; 1918, 50c; 1917, 49c; 1916, 52c; 1915, 53c; 1914, 55c; 1913, 50c.

In a computation submitted at the hearing, the returns for the year ended Dec. 31, 1917, which is one of the best traffic years the railway has had, are analyzed with a view to arriving at the expense per passenger train mile. In substance, the division was made by allocating such items of cost as were directly allocatable to the individual services, the balance being divided on the basis of train mileage. The computation submitted showed that during the period in question, equating mixed train mileage to the basis of passenger, by charging one-third of the mixed train mileage to passenger mileage, the result was that while passenger business produced 32% of the earnings, it required 53% of the train mileage; and on this basis a computation was made that the average earnings per passenger train mile were \$1.19, as against average expenses per train mile of \$2.11. A similar computation made for the 11 months ended Nov. 30, 1918, gave earnings per passenger train mile as \$1.63, and the average cost per passenger train mile \$2.70.

In the period from Jan. to July, 1919, which for the reasons already set out affords a reasonable criterion of the present condition as to costs, the passenger revenue amounted to 28.23% of the railway's total receipts. As a rough working measure, it may be expected that the passenger business should meet the same proportion of operating costs as it raises in revenue. This is subject to the criticism that the passenger business may be proportionately more expensive than the freight business. As already pointed out above, the passenger train mileage for 1917 is taken at 53% of the whole, as compared with 32% of total earnings being derived from passenger business.

If figures submitted to the board in connection with the recent investigation into the conditions of railway mail pay, the C.P.R. made an elaboration of cost factors and subdivisions as being freight and passenger business. It was pointed out that the method of subdivision followed was in substantial accordance with the method sanctioned by the United States Postoffice Department in regard to an adjudication upon the rates of railway mail pay which was then pending before the Interstate Commerce Commission, and in which application the P.O. Department was a party. This allocation of costs for a six month period in the C.P.R. gave 32.173% of the total costs of the business as being allocated to passenger traffic. As a working measure, however, it will serve if the 28.23% above referred to is applied in the present instance. On other facts concerned with an attempt to measure costs so as to apportion these as bearing on the underlying factors in a general scheme of freight and passenger rates, it might be that a more refined measure, involving different factors, would be necessary. In the present instance, what is involved is a test of the justifiability, if allowed,

of the specific rates increase asked for.

The railway earned from passenger business in the period Jan. to July, 1919, \$91,763; 28% of the operating expenses of \$477,272, for the period in question, would give a total of \$133,636 as the proportion of operating expenses allocatable to passenger business, as compared with \$91,763 earned in the same time. Assuming that the percentage increase of 4c, as asked for, over 3.45c as at present in force, would measure the increase in revenue obtainable therefrom, and applying this to the passenger revenues of the seven months period under review, the result would be approximately \$14,000. This is to be compared with the figures given in the preceding paragraph. For the year ended June 30th, 1918, the average receipts per passenger mile on this railway were 2.669c. Reducing the increase asked for on the standard fare to a percentage and applying this to the average receipts per passenger per mile, the result would be 3.096c per passenger per mile.

As bearing on the situation and earnings of the road in respect of passenger traffic, details may be given from the returns to the Dominion Government. The passenger density is relatively low and the average journey short. Comparative details as to the averages for the railways of Canada in general are also added.

Following are the numbers of passengers carried earning revenue: 1918, 243,371; 1917, 273,127; 1916, 244,659; 1915, 245,315; 1914, 249,423; 1913, 268,142. The above items are of value as indicating the general nature of the business. The comparisons given with general averages for Canada are simply illustrative, not conclusive.

Number of passengers carried one mile of line (passenger density):—

	Q.M.&S.R.	All Canadian railways.
1918	29,837	82,090
1917	33,759	79,829
1916	27,890	72,611
1915	27,469	69,802
1914	28,395	100,309
1913	31,255	111,353

Average passenger journey (miles):

	Q.M.&S.R.	All Canadian railways.
1918	23.04	63
1917	23.75	59
1916	21.91	55
1915	21.52	54
1914	21.97	66
1913	22.62	71

Total amount received from each passenger:

	Q.M.&S.R.	All Canadian railways.
1918	\$0.61	\$1.32
1917	0.58	1.14
1916	0.56	1.31
1915	0.56	1.22
1914	0.58	1.32
1913	0.55	1.39

It is abundantly evident that there have been large increases in cost.

The grounds of objection to the proposed increases as summarized in the answers filed prior to the hearing by the municipalities fall under five headings: 1, The railway does not supply sufficient freight cars; 2, it does not issue second-class tickets; 3, the increase would give higher rates than are charged on other railways; 4, the passenger service should be improved without an increase in passenger rates; 5, there is a poor passenger service. The objections raised to the inadequacy of the freight service are entirely distinct from, and should not be considered with, the question of adequacy of passenger rates. As to the issuance of second-class tickets, there was nothing developed at the hearing to show under what section, if any, of the Railway Act or of the special act, there is a statutory obligation on the part of the

railway to issue such tickets. As to the objections raised in reference to the proposed increase giving higher rates than are charged on other railways, this is a matter which must be looked at entirely from the standpoint of particular facts, and general comparisons for or against do not advance the matter.

At the hearing, the figures of earnings and operating expenses were criticized by the municipalities' representatives. At the same time, it was pointed out that their criticisms were general, as they had not the specific information necessary to pass finally upon the matter. The figures have been checked. Criticism was made on the ground that a considerable part of the deficit to which the railway was subjected might be eliminated by cutting down the item of free transportation. The board asked for a return of the number of annual passes issued for 1918. The total as returned is 901. Under the Railway Act, the railway is permitted to issue free transportation to its employes and employes of other railways. It is also permitted to issue free transportation to governmental bodies and their agencies, and there are also certain statutory requirements as to obligatory issuance of free transportation. An analysis on a percentage basis shows the following distribution:

Railways and railway organizations.....	57.04%
Government officers .....	21.1 %
Regulative bodies .....	4.8 %
Members of parliament.....	11.9 %
	94.84%

The above accounts for 94.84% of the total. It is stated that only 15 to 20 of these passes are used frequently; the balance are rarely, if ever, used. As to the item of transportation exchanged between this railway and other railways, which represents the bulk of free transportation given, it would seem to be a fair conclusion that not much traffic of this kind would pass over the short mileage of this railway. On what is before the board, a conclusion is not justified that any considerable addition to the company's revenues is available from this source.

Another factor to which attention was directed was the expense of management. It was alleged that the general expenses were unnecessarily large. There are only two general officers whose salaries are in any way a charge against the railway. The board has had before it the exact figures and is satisfied that the portion of the salary charged in each case against this railway is not exorbitant. The balance of the salary in each case is charged against other railways under the same general management.

The following information is from a communication on file with the board in reply to a specific query: "A request was made for some specific authority or order necessitating the increase in the charge to the Q., M & S.R. on account of the taking over of the railways in the United States by the U.S. Railroad Administration, which led to a complete accounting separation of the properties. A statement was filed with the board under date of Jan. 29, 1919, giving the charges to general expenses for the three years ended Dec. 31, 1918, and under the column of remarks on this statement the following information was given 'Much of the accounting of the Q., M. & S.R. is handled in the general offices at Albany, N.Y. The taking over of the railways in the U.S. by the government led to a complete accounting separation of the properties and brought about an increase in these charges to the Q., M. & S.R. This

with the great increases in wages granted to clerical organizations, explains the increase in general expenses in 1918 compared with previous years and this enquiry apparently relates to this information. The Q., M. & S.R. was not taken over by the U.S. Railroad Administration. This made it necessary to establish a complete accounting organization, and to keep down the cost this organization was created in Albany, N.Y., where the employes could also do the work of one or two other small companies, each company being charged a portion of the expense, thus reducing the cost. It also made it necessary to create a car service department with a car accountant, and this organization was created in Montreal. Naturally, the separate organizations were more expensive than were the charges of the Delaware & Hudson Co. for doing the work in previous years, where it was only a trivial part of the total. It should also be remembered that the average wages of the railway clerical organizations were enormously increased under the McAdoo wage schedule, the minimum wage under supplement 7 to general order 27 (McAdoo award) was made, \$87.50 while this minimum had previously been \$35 or \$40."

Comparison may be made of the percentage section of general expenses to total operating expenses in the case of the railway, with the relationship for the same items in the case of the railways of Canada in general. The general expenses (% of expense), were as follows:

	Q.M.&S.R.	All Canadian railways.
1918	3.44	2.77
1917	2.99	3.4
1916	3.75	3.74
1915	3.56	4.72
1914	3.45	3.74
1913	5.3	3.39

The average percentage for all Canadian railways in this period was 3.62% as against 3.74% for the Q., M. & S.R. If the figures of 1917 and 1918 are taken as more characteristic, the averages are 3.1% for the Q., M. & S.R., and 3.19% for Canadian railways in general. The difference by which the Q., M. & S.R.'s percentage for 1917 is lower than that for 1918, viz.: 0.45 of 1%, if applied to the operating expense of 1918, would have meant a reduction of approximately \$3,000. As against this, it may be noted that the salaries of clerks and attendants were approximately the same amount greater in 1918 than in 1917.

As has been explained, the subdivision necessitated by the U.S. Railroad Administration, between the railway in Canada and the controlling railway in the U.S., has necessitated as a matter of strict accounting a large charge against the Q., M. & S.R. This is a matter over which the railway has no control. Details are available for the calendar year 1916, in which this subdivision was not in force in the same manner, and for 1918 when it was fully in force. For the year 1916, the general expenses were 3.63% of the total operating expense; in 1918, it was 4.60%. If the 1916 percentage had applied in 1918, it would have meant a reduction of approximately \$7,700.

In the computations above regarding the relation of passenger earnings and their relation to general expenses, the figure of \$447,272, as given, was taken as the deficit for the seven months ended July, 1919, and a computation based thereon. If it is assumed that the general expense item for 1918 is excessive to the extent that it exceeds the 1916

ratio, then, applying a similar reduction, the figures current for 1919 would be similarly reduced, giving an approximate reduction of \$2,700. Making this deduction, there would be for the period in question a computed passenger cost of \$130,916 as against earnings of \$91,763. The figures for the 8 months period, Jan. to Aug., 1919, have just been received. They show a total railway operating revenue for that period of \$378,771.39 with a total railway operating expense of \$550,100.90, a deficit of \$171,329.51. The operating ratio for August was 135%; for the 8 months period it was 145%. The passenger train earn-

ings for the period were \$105,713.68. A computation allocating to the passenger business such proportion of cost as passenger train earnings bear to total railway operating revenue, the same method as already used above, would show approximately \$154,000 of costs to be checked against the passenger receipts. The total pay rolls for the period in question took up 84c out of every \$1 of railway operating revenue. In general the conditions shown in the analysis for the 7 months period ended July, have continued during August. The figures thus available for two-thirds of the year may be taken as giving a characteristic condi-

tion as to cost, at a time when diverted traffic, due to the war, has fallen off.

On due consideration of the various factors concerned, the conclusion is unavoidable that the burden of proving that the increase in rate as requested is justifiable has been successfully borne by the railway; and an order should, therefore, go authorizing, subject to compliance with the terms of the Railway Act, the increase in the standard rate.

The board passed order 28,837, Oct. 3, authorizing the company to increase its standard maximum passenger fare from 3.45c a mile to 4c, on complying with the Railway Act, section 334.

## The Proposed Acquisition of the Grand Trunk Railway System by the Dominion Government.

The proceedings in the Dominion Parliament in connection with the proposed acquisition of the G.T.R. System by the Dominion Government to incorporate it with the Canadian National Railways, have been so fully dealt with in daily papers, that it is not necessary for Canadian Railway and Marine World to devote much space to them, but it will doubtless be of interest to our readers to have before them in full the bill which was introduced in the House of Commons in this connection.

On Oct. 15 the Minister of Railways moved that the house go into committee on a resolution providing for the acquisition by the government of the G.T.R. System, which was carried by 58 to 38. On Oct. 16 the resolution was adopted, on a division, and the Minister then introduced a bill to the same effect as follows:—

Whereas the present capital stock of the Grand Trunk Railway Co., of Canada, consists of the following:—

Four per cent guaranteed stock.....	£12,500,000
First preference 5% stock.....	3,420,000
Second preference 5% stock.....	2,530,000
Third preference 4% stock.....	7,168,055
Common stock.....	23,955,437

\$49,573,492

And whereas the present outstanding debenture stocks of the G.T.R. Co. of Canada consisting of:—

Five per cent G.T. debenture stock.....	£ 4,270,375
Five per cent Great Western debenture stock.....	2,723,080
Four per cent G.T. debenture stock.....	24,624,455
Four per cent Northern debenture stock.....	308,215

\$31,926,125

(hereinafter called the "present debenture stock"), are entitled to certain voting powers at meetings of shareholders of the G.T.R. of Canada; and whereas it is expedient that His Majesty should acquire the whole of the capital stock of the G.T.R. Co. of Canada except the 4% guaranteed stock above referred to: Therefore, His Majesty, by and with the advice and consent of the Senate and House of Commons of Canada, enacts as follows:—

1. This Act may be cited as The Grand Trunk Railway Acquisition Act, 1919.

2. Subject to the provisions of this Act, His Majesty the King, represented by the Minister of Railways and Canals of Canada, acting under the authority of the Governor in Council (hereinafter called the "government") may enter into an agreement (hereinafter called the "said agreement") with the G.T.R. Co. of Canada (hereinafter called the "Grand Trunk") and with such other companies and interests as the government may

think necessary, for the acquisition by the government of the entire capital stock of the Grand Trunk, except the 4% guaranteed stock of the Grand Trunk, amounting to £12,500,000, the latter being hereinafter called the "present guaranteed stock."

3. The said agreement shall contain provisions for the defining of the companies, properties and interests, comprised in the G.T. System, and, including the terms and provisions hereinafter set forth, may contain such other terms and conditions as the parties may agree upon.

4. As part of the consideration for such acquisition, the government may agree to guarantee the payment of:—

(a) Dividends payable half yearly, at 4% annum, upon the present guaranteed stock;

(b) The interest upon the present debenture stocks as and when payable, in accordance with the terms thereof.

These guarantees to take effect upon the date of the appointment of the committee of management hereinafter mentioned.

(c) Dividends payable half yearly at 4% per annum from the date of the appointment of the committee of management hereinafter provided for, upon an issue which is hereby authorized, by the Grand Trunk under the terms of the said agreement of non voting capital stock (hereinafter called the "new guaranteed stock") not exceeding the amount determined by the board of arbitrators, as hereinafter set forth.

Provided that concurrently with such guarantee of dividends and interest upon the present guaranteed stock and the present debenture stocks, respectively, the voting powers at meetings of shareholders of the Grand Trunk now vested in or exercisable by the holders of the said stocks respectively shall cease and determine absolutely.

5. The present guaranteed stock and the new guaranteed stock, or any part thereof, may be called in or redeemed by the government, at par, at any time after 30 years from the date of the appointment of the said committee of management, on six months notice, by advertisement, to the holders thereof.

6. The value, if any, of the first, second and third preference stocks and the common or ordinary stock of the Grand Trunk now issued and outstanding to the face values above mentioned (hereinafter together called the "preference and common stock") shall be determined by a board of three arbitrators, one to be appointed by the government, one by the Grand Trunk, and the third by the two

so appointed, or, failing agreement, by judges to be designated in the said agreement. New guaranteed stock, to an amount not exceeding the value, if any, so determined, carrying a dividend as hereinbefore authorized, shall be distributed among the holders of the preference and common stock, upon the transfer to or vesting in the government of such stock, in proportions which shall be determined by the arbitrators.

7. As soon as said agreement has been ratified by a majority of the holders of the stocks enumerated in the preamble to this act, present in person or by proxy and voting at a special general meeting of such stockholders duly called for the purpose of considering such agreement;

(a) A committee of management shall be formed consisting of five persons, two to be appointed by the Grand Trunk, two by the government, and the fifth by the four so appointed, to insure the operation of the Grand Trunk System (in so far as it is possible so to do) in harmony with the Canadian National Railways, the two systems being treated in the public interest as nearly as possible as one system. The committee shall continue to act until the preference and common stocks are transferred to or vested in the government, when it shall be discharged;

(b) The books, minutes, reports, documents, and other records, and all the railways and properties of the companies comprised in the Grand Trunk System, shall at all times be accessible and open to inspection and examination by any person or persons named by the Minister of Railways and Canals of Canada, or by the board of arbitrators; and all proper aid and assistance shall, on request, be rendered to such person or persons by the committee of management and by the officers and employes of the Grand Trunk and its allied companies, including the making and giving of extracts, copies and statements.

8. The government may lend to the said committee of management, upon the notes or other obligations of the Grand Trunk, such sums as the government may from time to time deem necessary for the carrying on of the operation or improvement of the Grand Trunk System.

9. The said agreement shall provide, among other necessary and usual provisions for:—

(a) The appointment of the arbitrators, the control of the arbitration proceedings, the administration of oaths, the procuring and admission of evidence, and the making of the award;

(b) The transfer to or vesting in the

government or its nominees of the preference and common stock upon the issue of new guaranteed stock in exchange therefor;

(c) The resignation or vacating the offices of the board of directors of the Grand Trunk and of each company comprised in the Grand Trunk System upon the preference and common stock being transferred to or vested in the government;

(d) The entrusting to the said committee of management by the Minister of Railways and Canals as receiver of the G.T.P.R. System, on terms to be approved by the Governor in council, of the exercise of such of his powers as receiver as the Governor in council may deem requisite in order that the operation and management of the said G.T.P.R. System may be conducted in harmony with the operation of other railways and properties under the control of the said committee;

(e) The continuation and administration of the G.T.R. of Canada Superannuation and Provident Fund Association,

council.

12. Upon the transfer to or vesting in the government of the preference and common stock as herein provided for, the government may, by order in council, provide for the discharge of the receivership of the G.T.P.R. System and the termination and withdrawal of the proceedings in the Exchequer Court of Canada relating thereto.

On Oct. 16, the bill was read a first time. On Oct. 17, the Minister moved that the bill be read a second time, and the debate continuing, D. D. McKenzie, the Liberal floor leader, on Oct. 21, moved the following amendment, which was seconded by Hon. W. S. Fielding:—

“That the bill be not read a second time, but that the house do come to the following resolution: That the bill proposes an uncertain but very large addition to the debt of the Dominion at a time when existing obligations, arising out of the war and from other causes, are so vastly in excess of all previous obligations as to give much cause for anxiety on the part of all who are con-

cerned in the financial position of Canada and the maintenance of the public credit. That a measure of such wide reaching character and large importance requires a study by the house and the people that cannot possibly be given in the closing days of the session. That the present session of parliament was called for a special purpose which has already been accomplished. That on Oct. 8 the Minister of Trade and Commerce, acting as leader of the house in the absence of the Prime Minister, stated that the government's expectation was that the session would close within the then current week. That under such circumstances the introduction by the government of a measure of such great importance as the acquisition of the railway and property of the Grand Trunk Ry. Co. of Canada, is improvident and inexpedient. That for these reasons the further consideration of the bill be deferred until a future session of this parliament.”

On Oct. 23, Mr. McKenzie's amendment was defeated by 91 to 61, and the

**Curve Chart for Railway Resurvey.**

A graph or chart for quickly determining the degree of a curve when the intersection angle and the external are given was devised last winter by the writer for use in the resurvey of the Dubuque Division, Chicago, Milwaukee & St. Paul Rd. This chart, shown in the accompanying drawing, is plotted on standard cross section paper. The externals are plotted vertically to a scale of 2 in. = 1 ft., making each small division represent 0.05 ft. The intersection angles are plotted horizontally to a scale of 3 in. = 1 degree, making each small division represent 2 minutes.

Curves were plotted as shown, extending to 7 ft. for the externals and to 9° for the angles. As a rule, this range cov-

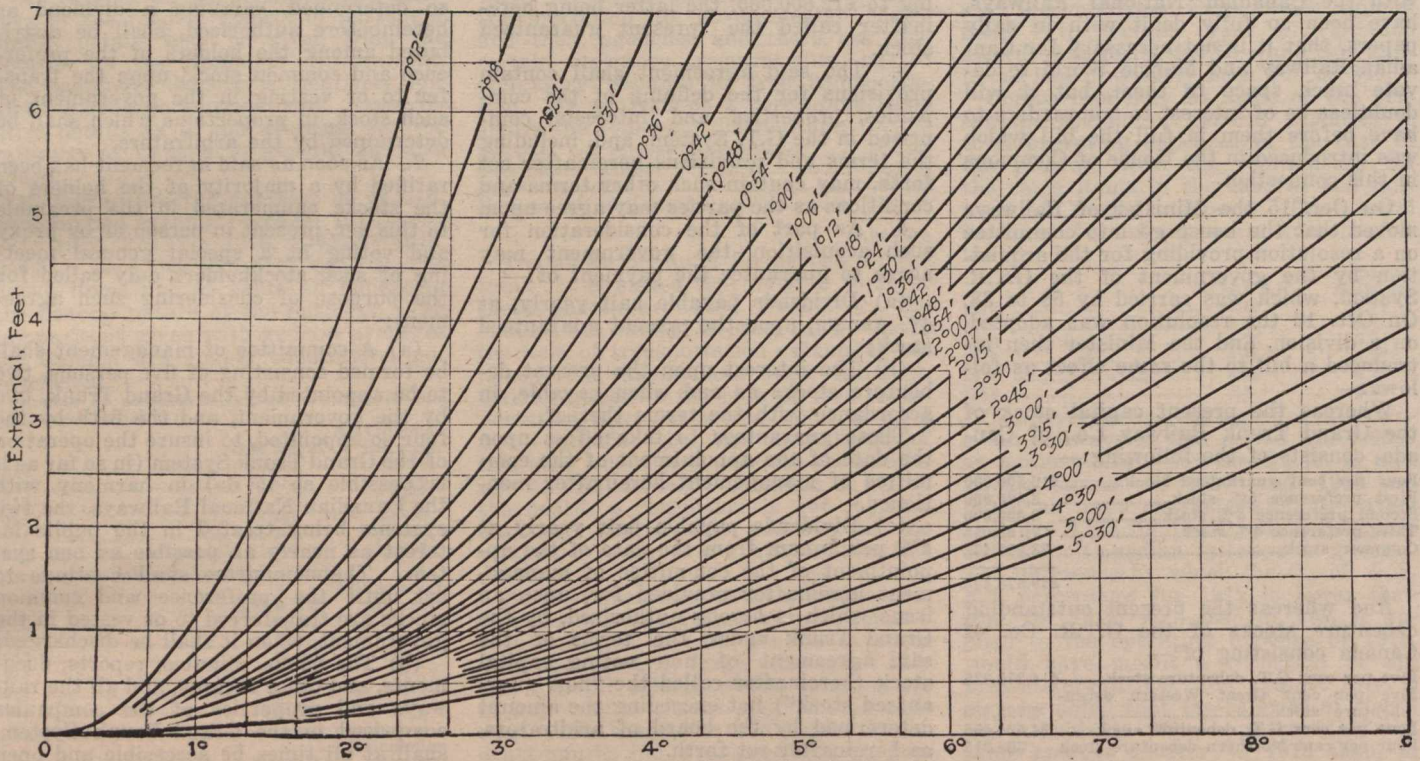


Chart showing degree of curve having given angle and external.

the G.T. Pension Fund, and the G.T. Railway Insurance and Provident Society, in accordance with the terms to be set forth in said agreement.

10. The government and the Grand Trunk, and each company comprised in the Grand Trunk System, and all persons interested therein, are hereby respectively authorized and empowered to enter into the said agreement upon and subject to the terms herein set forth, and to do and perform all such acts and things as may be deemed necessary to observe, perform and comply fully with the terms and conditions of said agreement.

11. Any orders of the Governor in council which the government may deem requisite to vest in the government any of the preference or common stocks not transferred to the government or its nominees under the terms of this act, or requisite to vacate any office of director, or otherwise to carry into effect the terms and provisions of the said agreement may be made and passed with the effect specified in any such order in

cerned in the financial position of Canada and the maintenance of the public credit. That a measure of such wide reaching character and large importance requires a study by the house and the people that cannot possibly be given in the closing days of the session. That the present session of parliament was called for a special purpose which has already been accomplished. That on Oct. 8 the Minister of Trade and Commerce, acting as leader of the house in the absence of the Prime Minister, stated that the government's expectation was that the session would close within the then current week. That under such circumstances the introduction by the government of a measure of such great importance as the acquisition of the railway and property of the Grand Trunk Ry. Co. of Canada, is improvident and inexpedient. That for these reasons the further consideration of the bill be deferred until a future session of this parliament.”

ered the requirements, as curves with intersection angles of over 9° could seldom be intersected.

For any angle and external within these limits it is very easy to pick off the corresponding degree, interpolating if necessary between the plotted curves. Charts can be made considerably larger if larger sizes are desired.

On this resurvey work the alignment party consisted of an instrument man, a rodman and two chainmen, all of whom were fast workers. The best day's work in the field was 27 curves, 19 of which were intersected and eight traversed. The Dubuque Division follows the west bank of the Mississippi River for 150 miles and is very crooked, on account of the steep bluffs and the course of the river. Most of the curves, however, are sufficiently flat to allow their tangents to be intersected and their externals measured. J. G. Wetherell, Assistant Engineer, Chicago, Milwaukee & St. Paul Rd., Chicago, in Engineering News Record.

## Transportation Appointments Throughout Canada.

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

**Canadian National Rys**—W. E. G. BISHOP has been appointed Division Freight Agent and District Passenger Agent, Transcontinental Division, O'Brien, Que., to Armstrong, Ont., vice E. B. Robb, transferred. Office, Cochrane, Ont.

F. J. BULLER, Local Treasurer, Lines East of Port Arthur, Ont., Canadian Northern Ry., has resigned, on being appointed Vice President, Canadian Steel Tire & Wheel Co., Montreal.

A. R. CURRAN has been appointed Paymaster, Lines East of Port Arthur, Ont., Canadian Northern Ry., vice S. J. Potter, promoted. Office, Toronto.

F. P. JONES, General Manager, Canada Cement Co., who was appointed one of the board, has resigned that position, giving as a reason, insufficient time to devote to the duties.

J. H. NORTON, heretofore Division Freight Agent, Halifax, N.S., has been appointed Assistant General Freight Agent. Office, Moncton, N.B.

S. J. POTTER, heretofore Paymaster, has been appointed Local Treasurer, Lines East of Port Arthur, Ont., Canadian Northern Ry., vice F. J. Buller, resigned. Office, Toronto.

E. B. ROBB, heretofore Division Freight Agent, and District Passenger Agent, Cochrane, Ont., has been appointed Division Freight Agent, Halifax, N.S., vice J. H. Norton, promoted.

**Canadian Pacific Ocean Services Ltd.**—T. R. PERCY, heretofore, chief clerk, General Passenger Department, Montreal, has been appointed General Agent, Passenger Department, Yokohama, Japan, vice E. Stone, appointed General Publicity Agent at Montreal.

A. W. SNELL has been appointed acting European Freight Agent, Montreal, vice G. D. Robinson, resigned to enter private business.

EDWARD STONE, heretofore General Agent, Passenger Department, Yokohama, Japan, has been appointed General Advertising Agent, Montreal.

**Canadian Pacific Ry.**—F. BAIRD, heretofore at Fort William, Ont., has been appointed Back Shop Foreman, Vancouver, B.C., vice R. Quinn, promoted.

A. E. BENNETT, heretofore Locomotive Foreman, Grand Forks, B.C., has been appointed Shop Foreman, Revelstoke, B.C., vice W. H. Mole, transferred.

E. R. BRUCE, heretofore Director of Exhibits, Colonization and Development Department, Calgary, Alta., has been transferred to Montreal, to take charge of the newly organization Exhibits Branch, Colonization and Development Department.

W. E. CLINE, heretofore Train Master, Medicine Hat, Alta., has been appointed Chief Dispatcher, Kenora, Ont.

JAAS. COLLEY, heretofore Assistant Publicity Agent, Colonization and Development Department, Calgary, Alta., has been appointed Publicity Agent, vice N. S. Rankin, transferred. Office, Calgary, Alta.

R. B. GIROUARD, heretofore Assistant Superintendent, Trenton Division, Ontario District, Havelock, Ont., has been appointed Assistant Superintendent, Sudbury, Division, Algoma District, vice F.

S. Rosseter, transferred. Office, Sudbury, Ont.

C. J. MCGREGOR, whose appoint-



J. K. Savage,

Assistant General Superintendent, Ontario District, C.P.R., and acting General Superintendent, Quebec District, C.P.R.



W. S. Harrison,

Auditor of Revenue, Grand Trunk Railway.

ment as Assistant Superintendent, Smiths Falls, Ont., was announced in our last issue, is, we are advised, acting temporarily while the Assistant Superintendent is relieving other assistant superin-

tendents on vacation.

E. C. McKAY, heretofore, dispatcher, has been appointed Chief Dispatcher, Smiths Falls, Ont., vice C. L. Leighty, whose appointment as Assistant Superintendent, Smiths Falls Division, Quebec District, Smiths Falls, Ont., was announced in our last issue.

W. H. MOLE, heretofore Shop Foreman, Revelstoke, B.C., has been appointed Shop Foreman, Vancouver, B.C.

J. NEILL, heretofore Division Master Mechanic, Kenora, Ont., has been appointed Trainmaster, Medicine Hat, Alta., vice W. E. Cline, transferred.

R. QUINN, heretofore Back Shop Foreman, Vancouver, B.C., has been appointed General Foreman, Revelstoke, B.C., vice A. McArthur, on leave of absence.

COL. C. W. P. RAMSEY, C.M.G., has been appointed acting Superintendent, Brownville Division, New Brunswick District, Brownville Jct., Me., during absence on leave of J. H. Boyle, Superintendent.

N. S. RANKIN, heretofore Publicity Agent, Colonization and Development Department, Calgary, Alta., has been appointed Special Publicity Agent, same department, to have charge of special publicity work in connection with the establishment of a Canadian Information Bureau. Office, Montreal.

F. S. ROSSETER, heretofore Assistant Superintendent, Sudbury Division, Algoma District, Sudbury, Ont., has been appointed Assistant Superintendent, Toronto Terminals Division, Ontario District, vice W. J. Stinson, transferred. Office, Toronto.

J. K. SAVAGE, Assistant General Superintendent, Ontario District, Toronto, has been appointed acting General Superintendent, Quebec District, during absence on holiday leave of J. M. Woodman. Office, Montreal.

W. J. STINSON, heretofore Assistant Superintendent, Toronto Terminals Division, Ontario District, Toronto, has been appointed Assistant Superintendent, Trenton Division, Ontario District, vice R. B. Girouard, transferred. Office, Havelock, Ont.

C. C. A. WARN, chief steward, s.s. Princess Charlotte, B.C., coast service, C.P.R., is reported to have been appointed Manager, C.P.R., Hotel Incola, Penticton, B.C.

**Grand Trunk Ry.**—J. B. DUNLOP has been appointed Travelling Airbrake and Lubrication Inspector. Headquarters, Montreal.

W. S. HARRISON, heretofore chief clerk and Assistant to Auditor of Revenues, has been appointed Auditor of Revenue, vice J. B. McLaren, promoted. Office, Montreal.

A. McDONALD, heretofore Assistant to Superintendent of Motive Power, Montreal Shops, has been appointed acting Superintendent of Motive Power, Montreal Shops, vice E. R. Battley, temporarily assigned to other duties. Office, Montreal.

J. B. McLAREN, heretofore Auditor of Revenue, has been appointed General Auditor, vice J. M. Rosevear, promoted. Office, Montreal.

J. M. ROSEVEAR, heretofore General Auditor, has been appointed Comptroller, vice W. H. Ardley, retired. Office, Montreal.

**Grand Trunk Pacific Ry.**—P. W. BALDWIN has been appointed Local Auditor,

G.T.P.R. and Grand Trunk Pacific Coast Steamship Co., Prince Rupert, B.C., vice A. Cotter, transferred to other duties.

MAJOR M. A. BURBANK, formerly of the Canadian Railway Troops, returned recently from service in France, has been appointed Assistant Engineer of line diversion at Urling and Shere, B.C.

COL. W. S. FETHERSTONHAUGH, formerly of the Canadian Forestry Corps, returned recently from France, has been appointed Division Engineer, Prince Rupert, B.C.

**Timiskaming and Northern Ontario Ry.**—J. L. ENGLEHART, Chairman of the Commission, has resigned owing to ill health.

### C.P.R. Stations Named After Men Decorated for War Service.

Stations on C.P.R. lines under construction in Saskatchewan and Alberta have been named as follows:—

Hesketh—On the Acme-Drumheller line, for Col. J. A. Hesketh, D.S.O., D.C.M., Companion of the Order of St. Michael and St. George, Assistant Engineer, Winnipeg.

Kirkpatrick—On the Acme-Drumheller line, for Major W. M. Kirkpatrick, M.C., Assistant Freight Traffic Manager, Winnipeg.

Gascoigne—On the Leader-Southwest-erly branch, for Lieut.-Col. F. A. Gascoigne, D.S.O., Secretary-Treasurer, Canadian Pacific Ocean Services, Montreal.

Thrasher—On the Milden-Southwest-erly branch, for Capt. J. M. Thrasher, M.C., M.M., fireman, Kenora.

Neighbour—On the Rosetown-South branch, for Lieut. H. Neighbour, M.C., D.C.M., storeman, Winnipeg.

Unwin—On the Lanigan-Northwesterly branch, for Major L. B. Unwin, M.C., accountant, Schreiber.

### Aerial Transportation Notes.

A Quebec press report says that an enterprise is being organized to utilize aeroplanes and dirigibles, to carry supplies, etc., to northern Canadian regions not yet developed because of the difficulty of reaching them.

N. A. Yarrows, of Yarrows Ltd., ship-builders, etc., Victoria, B.C., and associates, have offered \$50,000 as a prize for the first non-stop flight across the Pacific Ocean from Vancouver, B.C., to Japan, by a Canadian built aircraft. The prize will be known as the Prince of Wales prize, and the trip is to be made prior to Dec. 31, 1921.

Lieut.-Col. Robert Leckie, D.S.O., M.C., D.F.C., has been appointed to the Air Board's staff at Ottawa, as Superintendent of Flying Operations, at an initial salary of \$4,500 a year. He was born in Scotland, and resided in Toronto for some 12 years before the war. He entered the Royal Naval Air Service in June, 1915. After the formation of the Royal Air Force he was in command of the 228th Squadron, and on the formation of the Canadian Air Force, was given command of No. 1 Canadian Wing.

The Aero Club of Canada, Toronto, has elected the following officers: President, Lieut.-Col. W. G. Barker, V.C., D.S.O.; Vice President, Major Shook, D.S.O., D.F.C.; Honorary Secretary, A. F. Fenton; Honorary Treasurer, Capt. Evans MacKay, M.C., D.F.C.; Secretary, Major E. G. Joy; directors, Major Paul Meredith, Major M. Sisley, Capt. J. W. G. Clark, and Major Bert Wemp, D.F.C.

Major-General Sykes, Controller-Gen-

eral of Civil Aviation, in an article in the London, Eng., Observer on the colonies and aviation, dwells on the great opportunities in Canada. He says aircraft can be employed to extend the influence of the railways, and will give an impetus to every branch of Canadian commerce. As an instance of their usefulness in developing virgin land he suggests an air route linking up Quebec with the C.P.R., Lake Superior terminus, from where the services might radiate toward Winnipeg, and thence to Vancouver and many parts of the northwestern provinces. Aerodromes can be planned in every center of new towns springing up in Canada, instead of outside as in older countries. Aircraft might be used for discovering prairie fires, herding, patrols, timber location and survey work. Map making by aerial photography should supersede the present costly and slow method of trigonometrical survey. He concludes by expressing confidence in Canada's very great future in the air.

Werner Horn, who claims to be an officer of the German army, domiciled in the United States, after having served a sentence in the U.S. for illegally conveying explosives on trains in contravention of the Interstate Commerce Act, was ordered to be extradited to Canada to answer a charge of blowing up the international bridge on the C.P.R., between McAdam Jct., and Vanceboro, Me., Feb. 2, 1915. He was brought before the deputy police magistrate at Fredericton, N.B., Oct. 16, and remanded to Oct. 24 for further hearing. He was later committed for trial, and found guilty, Oct. 29.

National Steel Car Co., Hamilton, Ont., press dispatch, Oct. 27.—At a meeting of the directors of the National Steel Car Co., on Oct. 25, it was decided to recommend to the shareholders that a proposal made by a syndicate of New York capitalists, headed by R. J. Magor, for the reorganization of the corporation be accepted. The details of the proposal will be given in a circular letter to be sent to the shareholders at once, and a general meeting of the company will be held on Nov. 12 to deal with the matter. The syndicate proposes to put up ample capital to operate the plant to capacity, and to introduce more aggressive management. R. J. Magor is a brother of Basil Magor, who was at one time General Manager of the National Steel Car Co., and who is interested in the Magor Car Corporation, which make railway cars in the United States.

Passenger Train Resistance—Tests to determine the resistance of passenger trains at all speeds up to 70 miles an hour, and for average car weights, have been completed by the Railway Department, Engineering Experiment Station, University, Illinois. Of the 240 cars composing the 28 trains tested, 178 had 6 wheel trucks, and 62 had 4 wheel trucks. These tests were made on the Illinois Central Rd. by Prof. E. C. Schmidt and H. H. Dunn, upon well constructed and well maintained main line track, laid almost entirely with 85 or 90 lb. rail and ballasted with broken stone. From the results, which are given in Bulletin 110 of the Engineering Experiment Station, a table has been prepared showing the probable average value of resistance for passenger trains composed of cars weighing from 30 to 70 tons and operating at speeds ranging from 5 to 75 miles an hour. Copies of the bulletin may be had without charge by addressing Engineering Experiment Station, Urbana, Ill.

### Conditions of Hudson Bay Railway Roadbed and Terminals.

In the House of Commons on Sept. 30, J. A. Maharg, M.P. for Maple Creek, Sask., called the government's attention to a press dispatch from Pas, Man., reading as follows:—"The elements and neglect are slowly crumbling the terminals of the Hudson Bay Ry. at Port Nelson, according to Capt. R. H. Taylor, of the mounted police patrol boat, who has just arrived here from the bay. He declared that the roadbed of the railway from mile 214 is rapidly going to pieces and all along telegraph poles are lying on the ground. The terminal shops he said are lying in a state of rust and decay. He thought that the heavy storms last summer had considerably weakened the terminal works and without immediate repair and additional strengthening the entire works would be crushed to pieces by the winter ice."

The Minister of Railways, Hon. J. D. Reid, replied on Oct. 1, that he had asked the Chief Engineer for information and had been furnished with the following:—"The Chief Engineer of the Terminals, D. W. McLachlan, who is at present engaged in other engineering work with the department at Ottawa, informs me that the statement with regard to the condition of the terminals and the probability of the works being crushed to pieces by the coming winter's ice, has no foundation. He further states that the works have successfully withstood the storms and ice of the past three years without material impairment or injury, and he has every confidence that they will continue to do so during the coming winter. We have at Port Nelson a capable superintendent, with six men, whose duty is to look after minor repairs and immediately communicate with the department in the event of any serious damage. His monthly reports show that everything is in first class condition.

"With regard to the roadbed. It is to be expected in a country of the nature through which this railway passes, that frost will affect and dislodge numerous temporary trestles and telegraph poles which will have to be set up again, but not to any greater extent than would take place if the road was under operation—the only difference being that they will all be replaced at one time when the work is again gone on with, rather than from time to time as the damage occurred, as would be done if the road was in operation."

### Grand Trunk Pacific Ry. Receivership.

—An act has been passed by the Dominion Parliament to correct a clerical error in the order in council, respecting the appointment of the Minister of Railways as receiver of the Grand Trunk Pacific Ry. and its subsidiary companies, printed as a schedule to chap. 22 of the statutes of 1919. The act directs the insertion of the word "terminal," to make the words "Grand Trunk Pacific Elevator Co.," read "Grand Trunk Pacific Terminal Elevator Co."

C.P.R. Employes Fined—E. W. Downey, conductor, and A. H. Ruddock, a sleeping car porter, were fined \$500 each by a Winnipeg police magistrate, Oct. 6, for having accepted secret commissioners. The porter, being unable to pay, was sentenced to jail for 6 months. Similar charges are pending against two other conductors.

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## The Prince of Wales' Canadian Tour by Rail and Water.

The itinerary of the Prince of Wales' tour from Quebec to the Pacific coast and back to Montreal, as detailed in Canadian Railway and Marine World for September and October, was pretty closely adhered to, except that the visits to Cobalt and Timmins in Northern Ontario, originally scheduled for Sept. 2 and 3, were postponed until the return trip. After visiting Winnipeg on Oct. 10 and 11, the Prince spent a week end at Lake Manitoba, during part of which he had some shooting and left Winnipeg again on Oct. 14, instead of Oct. 11, as planned originally, for the east. The four days stop at Biscotasing, to visit the woods, lakes and rivers of Northern Ontario, scheduled for Oct. 12-17, was abandoned and instead the Prince went right through to North Bay, Ont., and visited Cobalt and Timmins, Oct. 16. Under the original schedule he was, after leaving Biscotasing, to proceed by C.P.R., via Sudbury and West Toronto, to Hamilton, but this was changed and his train was run over the G.T.R. from North Bay, via Allandale and Georgetown, to Hamilton. After leaving Brockville, Ont., Oct. 27, he went to Vaudreuil by G.T.R., and thence by C.P.R., to Montreal. The trip from Montreal to Ottawa, via C.P.R., scheduled for Oct. 31, was abandoned and instead he visited the Eastern Townships of Quebec, going via C.P.R. to St. Johns and Lennoxville, and thence by G.T.R. to Montreal. From Nov. 2 to 5 will pay a return visit to Toronto, and then visit Ottawa.

The G.T.R. prepared for the use of the Prince of Wales and his staff on the portion of the tour over the company's lines, a specially designed descriptive itinerary. The book is beautifully illustrated, and a notable production in every way. On the olive green leather cover is die-stamped in gold, the Prince's arms with crest, badges and supporters, and in the corners are the emblems of England, Ireland, Scotland, Wales and Canada. The frontispiece is a copper etching of Niagara Falls, signed by the artist. The other illustrations are printed in sepia on heavy suede finished coated stock, and show the features of the territory which the Prince visited during his tour over the company's lines in Ontario and Quebec, also the striking developments in motive power and bridge building. The letterpress is printed on the finest of hand made loft dried stock, and is descriptive of the points of interest between North Bay and Hamilton, Niagara Falls and Brantford, Guelph, Stratford and Woodstock, Chatham, London and Windsor and Toronto, Kingston, Brockville and Montreal. Maps of the G.T.R. are mounted in silk in specially provided pockets. The editin de luxe was limited to 100 copies, all numbered, and these were enclosed in handsome boxes with the Prince's arms stamped on them. In the foreword to the book, reference is made to the important part played by the G.T.R. in the development of Canada.

## Equipment of Freight Cars With Safety Appliances.

The Board of Railway Commissioners passed general order 273, Oct. 8, as follows: Re application of Grand Trunk and the Canadian Pacific Railways, for an order extending the time for one year from Sept. 30, 1919, within which they may equip their freight cars with safety

appliances as required by general order 128, July 20, 1914: Upon hearing the matter at Ottawa, Oct. 7, 1919, the applicants, the Canadian National Rys., Brotherhood of Locomotive Engineers, and Brotherhood of Locomotive Firemen and Enginemen being represented, it is ordered that railway companies subject to the board's jurisdiction, be granted an extension of time until Sept. 30, 1920, 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.

**Canadian National Rys. and the Victory Loan**—The C.P.R. has set an objective of \$5,000,000 for subscription by the workers on its lines in the victory loan campaign. President D. B. Hanna is confidently calling upon every employe on the system to invest to the limit, and is impressing upon all the fact that the general prosperity of the country, including the railways, depends upon the success of this appeal for funds. Mr. Hanna has been in conference with the heads of all the principal C.P.R. departments, and a complete organization has been worked out for the canvas of every employe. Every day each canvassing unit on the 14,000 miles of line between Sydney, N.S., and Victoria, B.C., also upon the telegraph and express and other subsidiary systems, will report results to the head offices in Toronto. The company, as in other years, is offering both the Minister of Finance and the company's extended payment plan for the consideration of those in the service. The company's plan provides for payments monthly extended over ten months. This work is being carried on by the railway without expense to the victory loan organization.

**Alien Owned Shares in Transportation Companies**—Proceedings have been instituted in a Quebec court by the Secretary of State for Canada for the transfer to the Minister of Finance, from the United States Custodian of Canadian shares owned by enemy subjects and administered by the U.S. custodian until the signing of the treaty of peace when the status of the shares was localized to such places of business as the shares were entitled. The total amount involved is over \$1,000,000, and there are included shares in the Canadian Pacific Ry., Grand Trunk Ry., Montreal Tramways Co., Marconi Wireless Telegraph Co., and Canadian Car and Foundry Co.

**Superannuation of Canadian Government Rys. Employes**—Sir James Lougheed stated in the Senate, Oct. 14, in answer to questions, that 1,213 Intercolonial & Prince Edward Island Railways employes had been granted superannuation under the Intercolonial & Prince Edward Island Rys' Employes' Provident Fund Act, 1907, and amending acts, that 743 employes were participating in the fund on that date, and that the average pension paid employes was \$32.50 a month.

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

	Acres.
Alberta & Great Waterways Ry.....	9.03
Calgary & Edmonton Ry.....	155.13
Canadian Northern Ry.....	967.00
Canadian Pacific Ry.....	14.55
Qu'Appelle, Long Lake and Saskatchewan Rd. and Steamboat Co.....	160.00
Total .....	1,304.71

## Inverness Railway & Coal Co's Financial Position, Disposition, Etc.

The Minister of Railways, early in July, reported to the Privy Council, that the Inverness Ry. & Coal Co.'s bondholders committee had advised him that, owing to financial difficulties, it would be impossible for them to continue the operation of the company's railway after July 17. The Minister observed that the railway runs through an important locality in Nova Scotia, serving as an outlet for coal mines along the line, and is the only means of transportation for agricultural projects, and supplies for the inhabitants in the district. The bondholders committee urged that the government take over the line as a feeder for the Canadian National Rys., the transfer to be made on a basis similar to that on which certain lines in New Brunswick were taken over. On this basis the committee set a price of \$150,000 for the 60.91 miles of railway and 4.6 miles of sidings, exclusive of the pier at Port Hastings, the rolling stock and equipment to be paid for on a basis to be agreed on between the committee and the Canadian National Rys. directors, but such price not to exceed the valuation placed on the rolling stock and equipment by the committee: viz.: \$175,000, the government to pay for such supplies on hand as D. B. Hanna, President for them, and the prices to be fixed, C.N.R., might consider should be by him. The Minister recommended that authority be given under the Branch Lines Act, statutes 1915, chap. 16, for the purchase of the railway, rolling stock and supplies at the prices mentioned above, interest on the aggregate principal amount to be paid at the rate of 5% a year, from the date of taking over the railway until date of payment of principal, the agreement for purchase to be submitted to the Dominion Parliament, at its then next session, and in order to avoid the closing down of the line that it be taken over immediately upon the execution of the agreement for purchase. The Privy Council concurred in the Minister's recommendation and an order was passed accordingly on July 14.

It is said that arrangements are being made to lease or sell the coal mines to a Halifax coal merchant.

The National Trust Co., Toronto, trustee for the bondholders, gave notice on Aug. 2, that a meeting of holders of the Inverness Ry. & Coal Co.'s 5% first mortgage gold bonds would be held in Toronto, Aug. 29, to receive a report on the present situation from the committee appointed by the bondholders on June 30, 1915. The notice stated that the report would indicate that the cost of winning coal had risen to such a point that the receiver could not make profits from the railway or coal undertakings. The meeting was also called to consider what action, if any, should be taken by the bondholders, and, if thought fit, to pass, with or without modification, the following resolutions:

1. That the existing bondholders committee, consisting of Z. A. Lash, J. H. Plummer and R. Home Smith, continue to represent and act for the bondholders with power to the remaining members of the committee from time to time to fill any vacancy which may occur.

2. That the action of the trustee in applying for a receiver in Nova Scotia be approved.

3. That the committee be empowered in its discretion from time to time: to instruct the trustee to proceed forthwith to obtain judgment for foreclosure and sale in the action now pending in the Nova Scotia courts and thereupon to have the assets covered by the trust deed and by any supplemental instruments sold, either en bloc or in parcels, and for that purpose to authorize the trustee in the event of an auction sale or sales to approve of any reserve bid or bids fixed by the court or any change thereof, or, to instruct the trustee to concur in a private sale, or sales, lease or leases or other disposition of the assets, if it should consider it advisable so to do by reason of a public sale under the court proving abortive or for any other reason or, to instruct the trustee to do whatever may be necessary for the sale of the property by private sale en bloc or in parcels and that the trustee be authorized to do all or any of the above things.

4. That the committee be empowered to instruct the trustee in the event of the property being disposed of as provided by paragraph 3 above to apply and distribute the proceeds in due course in accordance with the law and the terms of the trust deed above referred to and the trustee be authorized to make such distribution.

5. That the committee be empowered in the event of the mortgaged premises being disposed of as provided in paragraph 3 above to authorize the trustee to accept payment on the terms named by the committee and to accept in whole or part satisfaction of the purchase price, rent or other consideration, shares, bonds, debentures or other securities of any company or corporation formed or to be formed and that the trustee be authorized to make any such arrangements.

6. That the provisions of clause 22 of the trust deed and, if necessary, the provisions of any other clause of the trust deed, be altered to provide that moneys applicable to the payment of the interest and principal on the bonds be applied first in payment of the principal on the bonds and the balance (if any) in payment of the interest owing upon the bonds *pari passu*.

7. That the trustee be authorized to act on requests or instructions signed by a majority of the members of the bondholders committee.

8. That the trustee be authorized to execute and do all such transfers, reconveyances, leases, assurances, acts, deeds and things as it may in its discretion consider necessary or desirable for carrying out, giving effect or completing resolutions passed at the meeting hereby called and any such deeds or documents may include such provisions for the protection, indemnity and convenience of the trustee as it may require.

We have been unable to ascertain what action was taken at the bondholders meeting, the trustee stating on Sept. 11 that as certain negotiations were pending, no information could be furnished until they were ended.

Other information in regard to this company's affairs was published in Canadian Railway and Marine World as follows: June, pg. 299; August, pg. 437; September, pg. 488.

## Proposed Extension of Intercolonial Ry. Into Non-Railway Sections.

D. D. McKenzie, M.P., moved in the House of Commons, Oct. 6, that whereas the house on Mar. 16, 1914 adopted a resolution which he moved, stating the time had arrived for the extension of the Intercolonial Ry. into the non railway sections of the Maritime Provinces within reasonable range of the said railway, therefore, be it resolved that, in the opinion of the house, the proposals of the said resolution should be carried forward to completion at the earliest possible date.

In supporting his motion, Mr. McKenzie said that anyone acquainted with the geography of Cape Breton Island would readily understand that no one line of railway can possibly give proper accommodation, for the reason that that large and important island is divided into two sections by the Bras d'Or Lake. For that reason there should be a further development of railways on the island. The proposition he would put forward was that the government should at once, for the benefit, not only of Cape Breton Island, but of the whole country, extend a line of railway along both sides of the island, in order that fishing centers might be reached and important mining and lumbering areas given an opportunity for development. Since 1911 a line had been built on the mainland from Dartmouth to Dean Settlement, but there was a necessity for the extension of lines in Victoria County, and in the Guysboro area, in addition to those necessary in Cape Breton Island.

J. H. Sinclair, M.P., in seconding the motion, referred to the endeavors which had been made in the way of getting extensions of railways in Guysboro and Victoria Counties, towards which in 1910 Parliament voted \$1,000,000 and acquired a short piece of line from Ferrona to Sunny Brae, from the Nova Scotia Steel and Coal Co., at a cost of \$100,000. The present government did not renew the provision for building lines in Victoria and Guysboro Counties.

A. T. Leger, M.P., is supporting the motion, referred to the necessity for branch line extensions in New Brunswick, making mention particularly of a line from Buctouche, to some point in Northumberland County, surveyed in 1914.

The debate was adjourned on the motion of Sir George Foster, and on Oct. 8, was allowed to continue on the order paper.

**Ottawa Central Station Operation**—The Minister of Railways in replying to a question in the House of Commons recently, said the Canadian Pacific Ry., as well as the Canadian National Rys., run some of their trains into the Ottawa Central Station backwards. This practice is in vogue on United States railways as well as Canadian. The usual precautions taken by railways under similar conditions are followed at Ottawa. It was impossible to state definitely when changes to render this practice unnecessary will be undertaken.

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

	Acres.
Canadian Northern Ry.....	5,006
Canadian Pacific Ry. grants.....	17,31
Canadian Pacific Ry. roadbed and station grounds.....	76.42
Total .....	98,736



## Speeches at Dinner to President Beatty, of the Canadian Pacific Railway, at Quebec.

The Quebec Board of Trade entertained E. W. Beatty, K.C., President, C.P.R., at dinner, at the Chateau Frontenac on Oct. 1, some 250 being present, including Lord Shaughnessy, Chairman, C.P.R. Co.; A. D. MacTier, Vice President, Eastern Lines, C.P.R., and J. G. Scott, ex-President, Quebec & Lake St. John Ry., and Great Northern Ry. of Canada. In proposing Mr. Beatty's health, J. T. Ross, President of the Board of Trade, said in part:

We all know how extremely valuable this wonderful hotel, the Chateau Frontenac, has been to the City of Quebec. It has attracted thousands of tourists every year from the United States, from Europe, from Asia, Australia, and indeed, the whole world. Its reputation is as world wide as its situation is famous. But, large as it is, its accommodation is unequal to the great flow of travel which directs itself to Quebec, and during the tourist season, the management has, I am told, been reluctantly compelled to refuse hundreds of guests. Before the war broke out, the company purchased a large piece of property adjoining the hotel, with the intention of building an extension to the Chateau Frontenac, which would make it one of the largest hotels in America. We all earnestly hope that Mr. Beatty will be able to assure us that this very necessary work will be carried out, without delay, now that the war is over.

Before the war, the C.P.R. had established a line of large, fast, passenger steamships, running between Liverpool and Quebec which, on account of their draft of water, were compelled to make Quebec their terminal port. These ships, with a speed of 18 knots, were so punctual and so well equipped, that they attracted a class of travel, originating in the United States and the Orient, such as had never before used the St. Lawrence route. We are pleased to learn that this splendid weekly service is about to be resumed, and that the line will be inaugurated by the Empress of France in October.

But we, in Quebec, have larger ambitions than that, and we feel sure that the C.P.R. shares those ambitions. We think that the sacrifices that Canada has made during the war entitle us to at least as great favors from the Imperial Government as are extended to our neighbors in the United States. Now, the British Government grants the necessary capital and a subsidy of £150,000, for two ships, to the Cunard Steamship Co. for running a line of 25-knot steamships from Liverpool to New York. Would it not be possible to arrange with the Imperial Government and the Dominion Government that the C.P.R. should run a similar line of steamers to Quebec in summer, and Halifax in winter? The distance from Quebec to Liverpool is 500 miles shorter than from New York, so that the Canadian route would be a day faster, and should get the preference. The Quebec Board of Trade makes this suggestion and we hope that the C.P.R. will follow it up. Three boats would be sufficient for a weekly service.

We ask Mr. Beatty's attention to an innovation commenced this year, in connection with the other steamers of the company's Atlantic service by which these boats when outward bound do not stop at Quebec, as heretofore, and Que-

bec passengers are compelled to go to Montreal to take passage. This means an unnecessary travel of 340 miles which is ridiculous. Instead of this the Quebec Board of Trade has always contended not only that these steamers should make a stop here, both inward and outward, but that they should charge rates of passage and freight to and from Quebec cheaper than Montreal, in proportion to the distance saved. We are entitled to this, not only on account of our geographical position, but because these ships, or many of them, are subsidized with public money, of which we have to pay our share. Moreover, it is an injustice to the railway and steamboat lines between Montreal and Quebec, and to the Quebec hotels, all of which would benefit as in the past, were passengers allowed to take a day here en route, and join the ship at Quebec.

We think that Quebec has not been justly treated in the matter of ocean freight rates by the steamship companies, and as the C.P.R. is the largest steamship company the redress of this grievance is largely in their hands. Not only do the steamship companies charge Montreal rates for ocean freight to and from Quebec, but in some cases extra rates have been charged on our imports, although we are 170 miles closer to the ocean than Montreal, and in many cases the absurdity is witnessed of sawn lumber, our great staple trade, being sent to Montreal for ocean shipment, at great expense, to come back again past our doors, on its way to Europe.

The great pulp and paper trade of this province which has become so great an article of Canadian export, is principally carried on in the valleys and at the water powers of the Saguenay and the St. Maurice. The development of these two river valleys has created industries estimated to have cost \$80,000,000 and giving employment to 20,000 men, and is due entirely to the enterprise of a number of Quebec merchants who built two railways: the Quebec & Lake St. John and the Great Northern. The railway freight from the mills on the St. Maurice is the same to Montreal as to Quebec, and as ocean freight from Montreal is easy to obtain, and from Quebec, for the reasons I have given, very difficult, the products of these mills and of the Saguenay mills for ocean shipment, goes almost entirely to Montreal. This is most unjust to Quebec, which may be said to have originated this traffic, and we ask that the C.P.R. ocean service should set the example of remedying this injustice by making the ocean freight on pulp and paper from Quebec cheaper than from Montreal, in proportion to the distance saved.

The alarming diversion of the grain trade of the Canadian Northwest to U.S. ports, for shipment, is a bitter disappointment. We understand that two-thirds of the export grain of the prairie provinces—a speaker in the Senate recently said four-fifths of it—has been going to New York, instead of to Canadian seaports. We cannot blame the C.P.R. for this. They have always been thoroughly loyal to Canada, and have sent their grain traffic to Montreal in summer and to St. John in winter. The only remedy would seem to be to make use of the new National Transcontinental Ry. for the purpose for which it

was intended, and to carry the grain all rail, instead of relying upon the lake navigation, which switches it off at Buffalo. This new road shortens the distance between Quebec and Winnipeg by 214 miles, and its gradients are so level that, we are told, it is able to carry wheat to Quebec, with profit, for 3c a bushel cheaper than the lake and rail rate, via Fort William, either to New York or to Montreal. If the government cannot be made to understand the advantages to national interests of this new route, let them hand it over to the C.P.R. and we will soon have a revelation, not only as to the grain trade, but in the shortening by nearly half a day of the time of ocean mails and passengers between Quebec and Winnipeg. And the public would be relieved of that much of the burden of deficits, caused by the operation of railways by the government, against the extension of which the Montreal and Quebec Boards of Trade have so vigorously protested, in common with all the influential newspapers of this province.

Sir Lomer Gouin, Premier of Quebec, followed and said, among other things, that while they in Quebec felt an admiration for the C.P.R., they have also had the highest esteem and respect for the great men who had built that railway. They admired their palatial hotels, great railways and powerful fleet, but the people of Quebec cannot forget the first great man of that company, Sir William Van Horne. And we are fortunate in Canada in having these brilliant and talented men, of whom Sir William Van Horne was the first great man of the greatest railway in the world. It was because Mr. Beatty was a great lawyer and business man that he was found worthy to succeed his eminent predecessors. He offered his congratulations and compliments to Mr. Beatty for his success and prosperity. The people of Quebec felt it was a great honor to have the privilege of welcoming the President of the C.P.R. in "the mother city of Canada," of which we were all so proud and all loved so much, and which he thought Mr. Beatty would also learn to love himself, when he became more acquainted with its charms and beauties. Sir Lomer then spoke of the splendid resources of the C.P.R., and of the vast possibilities there are for future railway enterprise for which every facility is offered through its immense natural resources as well as the great industrial development, for which the intelligence of its employes was in no small degree responsible.

### President Beatty's Speech.

The C.P.R. operates within the limits of your province slightly less than 1,900 miles of railway, being, I think, equal in mileage to any other system within the province. The possession of this extent of mileage gives in itself a reason why the company's interests and those of the province are closely related and inter-dependent. From a railway standpoint, Quebec offers a great variety of railway traffic possibilities. You will appreciate this when you recall the extent of the productions of the province, which contribute to the support of the railway systems operating within it. In manufactured products its production is 27% of that of the whole of Canada; in wood pulp and paper, 53% and 49%, respec-

tively; in dairy products, 57%, and in live stock varying from 11 to 35%. The products of the farm are extensive and increasing, having now reached 13% of the total agricultural production of Canada. The future holds still more in the way of traffic and railway possibilities. The total railway mileage in Quebec is slightly less than 5,000 miles, or about two-fifths of that of the State of Pennsylvania, while its area is fifteen times as great. Quebec is likewise fifteen times as large as Ohio and its railway mileage about half that of the latter state. With increasing population and commercial expansion, more mileage must be constructed and existing facilities increased. The C.P.R. has not reached the limit of its development within the province, nor has any other railway company, if the future possibilities are as we have every ground for believing them to be. I believe that in the next few years a considerable extension of colonization railway construction will take place and while I am not unmindful of the hazard and the difficulty in building lines into undeveloped territories, if the work is undertaken prudently and gradually, there is no doubt that the railway extensions will not only keep pace with settlement and production, but will accelerate both.

The time was when railway presidents were in the habit of delivering speeches and giving interviews on all subjects from the raising of pigs to the style of women's clothes, I absolve my distinguished predecessor from the charge of following this practice, but it seemed to be an accepted theory that with such an office went the right of publicly discussing matters on which they were at least only partially informed. It is difficult for me to vary such time honored practices, but it is equally difficult to overlook that maxim of public speaking adopted in the earlier days, namely, that one should speak only on a subject he understood to those who had not the same amount of information about it. That was supposed to make it safe for the speaker and informing to his audience. So far as I am concerned this rather circumscribes my speech making, because it forces me to say something pertaining to the railway situation. Some phases of it are not yet, I think, adequately appreciated by many of the communities who depend so much for their development and prosperity upon the character of the railway service given to them, nor by the people as a whole upon whom the burden of their support must fall. I do not propose to trace for you the history of our Canadian railway situation, or of that in the United States. Both have elements in common and other phases in which they are entirely dissimilar. Neither do I propose to criticize at this time the policies which have given rise to our unfortunate position, but rather to make a few remarks upon the conditions which we must expect to face if these policies are extended.

This is a prosperous country, whose future, if the commercial affairs of the nation are administered prudently and economically for the next few years, is probably as bright as any country on earth. The danger is that our development may be retarded by burdens imposed upon us before we are able to carry them. We have many miles of railway that represent a useless expenditure, but the money has been spent and the securities are in the hands, in most cases, of investors in foreign countries, who staked their money in good faith upon the

development and future of Canada. Many of them were, we now know, misconceived and constructed at extravagant cost, and in default of any other available parents have been quietly laid on the door step of the government of the country, or it would, perhaps, be more accurate to say, had been placed on that door step which had a large "welcome" on the mat. They must be taken care of because they cannot be abandoned. It must be seen that they grow into healthy arteries of commerce and play their full share in the country's progression. The problem that confronts us now is how this can best be done, and if it is possible under any system yet evolved for their administration. The possession of a tremendous mileage by the Dominion, with these periodical additions of unprofitable mileage, makes the prospect a disheartening one, even though the most far-sighted and efficient men are placed in charge of the properties, and even if they were permitted to operate them to the best advantage in the interest first of the shippers and, secondly, of their owners.

I am convinced that no administration which does not retain individual initiative and enterprise, pride in their work and adequate rewards for work well done, can possibly reduce the heavy annual deficits which are confronting the operators of most of Canada's railways. The question is one of such great magnitude and will have such far reaching results that it should be determined without regard to the opinions of politicians, shareholders, or any one set of men, but must be determined upon one ground only—what is best for the people of this country, and what will give them the most efficient railway service at the cheapest possible rates, and at the same time impose as little burden of taxation as is possible. These millions which have been unwisely and unprofitably spent have been spent, but the millions which may be wasted by the adoption of an improper system of operation can be saved, or partially saved, and this is the problem the working out of which will determine the future methods of operation which will prevail throughout Canada. There are advocates of both systems of administration, and while their views and the facts upon which they base them, are worthy of the greatest consideration, I am convinced that the people will only come to a realization of how serious the situation is and will themselves provide the remedy only when they see and weigh the tangible results.

There are two important aids to the solution. The first is, that the problem should be discussed and agitated in order that the merits and demerits of the systems, which are suggested should be appreciated by the people as a whole. I do not know of any problem so vital to the interests of Canada, in which there has been so much acquiescence and so little public discussion and education, as the subject of the future of the country's transportation systems. As a corollary to this and second only in importance is the necessity for accurate information as to administration and results of it, in order that the people may be in a position to judge whether they desire to adhere to the methods of administration from which these results flow. I do not mean financial results alone, but results in service, a most important factor from the standpoint of the public. To my mind the determination of the question will rest upon two factors, the extent of the burden cast

upon the people and the character of the service given. The difference between a proper and an improper system represents the millions of additional burden to the taxpayer, which he may be called upon to bear and the high rates and poor service which are due to the inefficiency which any improper system must inevitably provoke.

I have no doubt as to the transportation future of the principal lines in the Province of Quebec, nor have I any doubt as to the future development of the province, rich as it is in natural resources and only requiring sufficient investigation to warrant the beginning of new enterprises and the extension of old, in order that its commercial prosperity may be assured. Hand in hand with enterprise and prosperity must go a greater realization of the duties of citizenship and an appreciation of the obligations of communities towards those who are sick or in want. Theoretically this duty devolves upon the municipality whose citizens are affected and practically, it depends, as other questions, upon the direction and support given by the government to any such movement. A conspicuous example in this province has been the burden cast upon hospitals and other eleemosynary institutions, which have increased enormously by the increasing costs and the difficulty in having these costs met from ordinary revenues and the support of charitably, minded citizens. We will, perhaps, never reach the day when appeals will not be made in the interest of institutions to tend the sick and the needy, nor is this desirable, but it has now got to the limit of reason that this whole burden should be borne by the few who appreciate the situation and whose financial resources permit support to be given. I know that the eminent, able and resourceful Prime Minister of the province needs no inspiration from me, but I have been associated with several of its larger institutions and I know how vital it is that additional government support, by special tax if necessary, must be given to these institutions if they are to perform their full duty to the communities they are designed to serve. There is no unfairness in the suggestion that the people, as a whole, should be taxed to meet these conditions which enlightened citizenship demand must be met, because the burden of it falls most heavily in the congested districts in which the need of such service is most apparent. It is, indeed, an alarming condition that public institutions of this kind, well managed, generously supported by citizens and in some cases by municipalities, should face enormous deficits or greatly decreased activities and usefulness, simply because the cost of service to the poor and needy cannot be met, and should not be wholly met, by appeals to the charitable instincts of the people of the community.

I presume that you will not want me to sit down without making more than a passing reference to the City of Quebec, and its relations to the C.P.R.—relations which I am happy to say have been long standing and mutually satisfactory. In fact, your President, Mr. Ross, has rather demanded that these local and, therefore, more intimate subjects should not be overlooked. It is true that here, as elsewhere, there must be periodical conflicts of opinion, due to confliction of interests, but I am happy to say they have been reduced to a minimum. Your position is unique, a spot whose historical attractiveness appeals so strongly to the people of Canada and

the United States; Quebec occupies a situation without parallel, I think, on the American continent. This is a commercial value to your city and the surrounding country and the value has not been and will not be lost sight of by yourselves or the transportation companies which serve your city. In addition, though some of us would hate to see the destruction of the rare and peculiarly attractive characteristics of your city, there is your position as a port with a sufficient harbor; the end of navigation for the largest trans-Atlantic ship and the industrial development which must take place, which gives to Quebec a future to which you will look with confidence. This situation was appreciated by the sagacious men who presided over the destiny of the company many years ago, and more than 25 years have elapsed since the Chateau Frontenac was built, and it has been since noted as a hostelry unique in itself, generally adequate to the needs of transients and in all respects a credit to your city. It has been altered and enlarged on occasions, but still the greatness of traffic due to the attractiveness of the place has outgrown the capacity of the hotel in the summer season and still further enlargement and changes will be necessitated. I am happy to be able to say that the C.P.R. directors appreciate the necessity of this and plans are in preparation which involve an enlargement of the hotel by over 200 rooms, and the provision of facilities not hitherto possible through lack of space. The cost of these changes will be in excess of \$2,000,000 but the future of Quebec, we think, amply warrants the expenditure and the work will, I hope, be commenced in the early part of next year and continued until the plans are completely carried out. If you are proud of the old Chateau I am convinced that you will be still more proud of the new one, which will be more adequate to the needs of your city.

Your President, with characteristic foresight, mentioned to me in advance some of the points which he desired to emphasize from the standpoint of the interests of Quebec City, and I will refer to them very briefly because, obviously, they are questions of great importance, the consideration of which cannot be ended in a moment. He had drawn my attention to the desirability of a subsidy to a 25 knot service from Quebec, similar to that granted by the British Government to the Cunard Line to New York and has suggested that a subsidy of £150,000, or some similar amount, might be granted by the British or Canadian Governments, or both, if such a service were established from your port. You will appreciate, I think, as I do, the tremendous cost of such a service under conditions now prevailing and likely to prevail for some time to come. You know, for example, what it means for a company, even the size of the C.P.R., to put in such service a vessel like the Empress of France, valued at \$6,000,000; you know something, too, of the cost of operating such a steamship. Coal today in Liverpool is £5 a ton—a 25 knot steamer consumes 1,000 tons a day. On this basis, a subsidy of £150,000 would pay the coal for such a ship for exactly 30 days running. If, on the other hand, coal for the round voyage were purchased in Canada, it would mean a tremendous cargo displacement and reduce the earning powers of the ship enormously.

In the matter of freight rates, and the suggestion that there are some discriminatory features against the City of

Quebec, I would like to point out to you that the ocean rates are practically the same from all Atlantic ports, and that if the suggestion that the rates from Quebec should be lower than those from Montreal was given effect to, logically the difference in the rail haul would have to be considered and the additional rate from Montreal to Quebec would be far in excess of any difference in rate which could be granted on the ocean. Under the system now prevailing, the steamship companies absorb this difference, which is certainly more to the advantage of Quebec than if a difference were made in the ocean rates. In case there should be any misapprehension, permit me to say too that the Canadian lines—certainly the C.P.R.—get no government subsidy for their ocean services. It is true we are paid for carrying the mails, but we are only paid on the basis of the lowest freight rate, and there is no form of gratuity in it nor any support to the service, except that of payment at very low rates for traffic actually carried.

If it has happened, and I do not think it has in the case of the company's steamships, that products have been moved to Montreal for loading, it is, I presume, because it is easier to load at one port than to begin at one port and complete loading at another, especially when the full cargoes for such exports have always been available and ships to carry them have been few.

I recently took a trip through the United States and there had the opportunity of conferring with some railway presidents, who explained to me the difficulties of the situation in the U.S. One man, who had grown gray in the service of his company, having had almost 50 years' continuous railway experience, made a remark to me which I think is worth repeating. He said: "I often tell my directors that I am almost ashamed to take the salary I am paid, because it is the easiest thing in the world to be a railway president." "All you have to do," he added, "is to satisfy the public." Now, I have told that instance in other places, and in each place the story was greeted with laughter, because the irony of it being easy to satisfy the public seemed to strike the public themselves. What this railway executive meant by his semi-humorous statement was that the good will and support of the public was essential to the success of any railway enterprise, and that once secured and maintained the burdens of his office were appreciably lightened. It is true, I think, that never before has the value of public good will and support been appreciated to the extent it is now appreciated by all railway officers. The realization of it is not exactly forced upon them, but the value of it from the standpoint of results has been so apparent that every man now knows that he cannot be a successful railway operator unless he is mindful of this fact. It is not a case of cosening the public, but of doing your best for the public, which in the long run brings the best results. You may rest assured that the value of your support and good will will not be lost sight of in mutual relations between the C.P.R. and the City and Province of Quebec.

Lord Shaughnessy paid a warm tribute to Mr. Beatty. He said that the work of the new President required an exceptional degree of attention that from the very nature of it, had to be ever constant. He was in a large territory extending half throughout the world, and he had to give thoughtful consideration

to the operation of all the railways under his control as well as other subsidiary interests. Any mistake of his might be disastrous to the C.P.R. as well as to the interests of Canada. He felt that Mr. Beatty would prove equal to the great task. Mr. Beatty was well disposed towards Quebec. Lord Shaughnessy expressed the belief that apart from the addition of 200 rooms to the Chateau Frontenac shortly, it would not be long before an additional 200 would be added to that. He pointed out that at the last session of parliament, Mr. Beatty had succeeded in putting through a bill that would enable the C.P.R. to inaugurate an aerial service, and he asked the Quebec Board of Trade to insist upon these airships landing at Quebec.

### Railway Finance, Meetings, Etc.

**Atlantic, Quebec and Western Ry.**—There has been filed with the Secretary of State at Ottawa a duplicate original second mortgage debenture of A., Q. & W.R., for such sum or sums as the registered holder may be entitled to, not exceeding in the aggregate \$2,050,000 bearing interest at 5% a year, dated June 30, 1919, and maturing Jan. 1, 1940.

**Lake Superior Corporation**—Following are the officers and directors for the current year elected at Camden, N.J., Oct. 2: President, W. H. Cunningham; Vice Presidents, W. C. Franz and H. Coppel; Secretary, Alex. Taylor; other directors: Sidney Mason, J. F. Taylor, J. S. Dale, F. McOwen, H. I. Underhill, H. C. Coleman, R. Home Smith, T. D. Wood, T. Gibson, James Hawson. The company owns the Algoma Central and Hudson Bay Ry., the Algoma Eastern Ry., and the International Transit Co. (electric).

**Canadian Northern Ry.**—Referring to the trust deed securing the 5% C.N.R. income charge convertible debenture stock, the directors announced Oct. 9, that the earnings for the half year ended June 30, were insufficient to enable them to declare any interest to be payable on the stock Nov. 2.

### Timiskaming & Northern Ontario Ry.

	July, 1919	July, 1918
Passenger earnings.....	\$88,268.61	\$60,378.42
Freight earnings.....	173,193.23	150,657.38
Total earnings.....	261,461.84	211,435.80

**Canadian Steel Tire & Wheel Co. Ltd.** has been incorporated under the Dominion Companies Act, with an authorized capital of \$1,000,000 and office at Montreal, to manufacture steel tires, cast steel wheels, several of the persons principally interested being connected with the Railway Steel Spring Co., New York. The President is F. F. Fitzpatrick, President, Railway Steel Spring Co.; the Vice Presidents are A. S. Henry, Vice President, Railway Steel Spring Co., and F. J. Buller, heretofore Local Treasurer, Eastern Lines, Canadian Northern Ry., Toronto; K. W. Blackwell, one of Canadian Car & Foundry Co.'s Vice Presidents, is also a director. The company has bought a plant on Marion Ave., Montreal East, that was used for manufacturing munitions and will start operations at an early date.

**The C.P.R.'s Social and Athletic Club**, Regina, Sask., branch, has been organized with the following officers: President, A. Pentland; Vice President, Mrs. D. M. Ruddell; Social Secretary, Miss D. Davis; Athletic Secretary, E. J. T. Blanche; Treasurer, A. A. Dunphy. The first social gathering was held Oct. 9.

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

**Alaska Railway**—The United States Senate on Oct. 2 passed the vote of \$17,000,000, passed previously by the House of Representatives for the completion of the government railway in Alaska. (Oct., pg. 536).

**Dolly Varden Mines Ry.**—We are officially advised that this railway is still under construction, although traffic is being operated over some portion of it. The line at present extends from the Dolly Varden Mine, Alice Arm, B.C., to tidewater, 16 miles. It is 36 in. gauge and is operated by a 30 ton Climax locomotive, an 18 ton Porter locomotive and sixteen 15 ton gondola cars. It is the company's intention to extend the present railway from the Dolly Varden Mine to the Wolfe Mine, about three miles. Surveys for this extension have been made and plans are now being prepared, but it has not yet been decided when construction will be gone on with.

The line is being operated by the Taylor Engineering Co. Ltd., Vancouver, of which A. J. T. Taylor is President. E. G. Taylor, the company's Mechanical Superintendent, is in charge of the construction and operation of the line. (Oct., pg. 536).

**Edmonton, Dunvegan and British Columbia Ry.**—J. D. McArthur, President, was in Ottawa recently, discussing with the Dominion Government, the position of the E.D.&B.C.R., and its associated lines, the Alberta and Great Waterways Ry., and the Central Canada Ry. The system comprises the line from Edmonton to Spirit River and Grande Prairie, 402 miles, the line from Carbondale to McMurray, 290 miles, and the line from McLennan to Peace River, 48 miles, a total of 740 miles. An area of 16,000,000 acres of arable land is at present served and if the lines as projected were completed, an area of 100,000,000 acres would be opened up for development.

Replying to a question in the House of Commons, Oct. 8, the Minister of Railways stated that no arrangements had been made by the government for taking over the lines. It was reported in Ottawa on the same day, that at a caucus of government supporters, an opinion adverse to taking over the lines was expressed.

D. C. Coleman, Vice President, Western Lines, C.P.R., Sir Augustus Nanton, a director of the C.P.R., and W. R. MacInnes, Vice President, Traffic, C.P.R., went over the line to Spirit River recently.

The Board of Railway Commissioners, Oct. 9, approved of location plans for the railway at Alcomdale, Alta.

A press report states that the company is being asked to build a branch line to Vanrena, Alta. (Oct., pg. 536).

**Esquimalt and Nanaimo Ry.**—A press report states that a contract has been let to the Foundation Co., for building a 10 mile extension of the E.&N.R. to Great Central Lake. The branch starts from the present line between Bainbridge and the Alberni terminus, and the route has been located to the Great Central Lake. The location is along the Sproat River Valley, north to its confluence with the Stamp River, where it branches west, and runs along the south shore of the Great Central Lake for some miles. Some clearing is reported to have been done on the right of way. R. Marpole, Vice President, E.&N.R., and General Executive

Assistant, C.P.R., Vancouver, B.C., was in Victoria, Oct. 6, in connection with the letting of the contract, and is reported to have said that the work will be pushed through to completion as fast as possible. It is expected that the extension will be ready for operation in July, 1920. J. S. Connell, of the Foundation Co.'s Vancouver office, and E. E. Jenkins, its Victoria representative, are reported to have gone over the located route, Oct. 6. (Oct., pg. 536).

**Grand Trunk Pacific Ry.**—The Board of Railway Commissioners has ordered the company to file plans for a station at Prince George, B.C., and to have the building completed by Dec. 31. The board made an order for the erection of a station at Prince George, in Nov., 1914, but owing to war conditions did not enforce it. (Sept., pg. 491).

**Hudson Bay Ry.**—The special committee of which Senator Fowler is chairman, appointed by the Senate to enquire into the navigability of Hudson Bay and Strait, reported Oct. 8, that it had not had time to consider the evidence collected, and recommended that it be empowered to sit during the parliamentary recess and to present a report at the next session. The report was adopted.

The Minister of Railways in replying to questions in the House of Commons, Oct. 9, said approximately 425,000 ties were taken from the Hudson Bay Ry. during 1917 and 1918, and turned over to the Canadian National Rys., for use on C.N.R. lines in Western Canada. During 1917 and 1918 and this year, 825 gross tons of steel rails and part of J. D. McArthur's equipment were taken over, the rails being bought by the Grand Trunk Pacific Ry., and the equipment by the C.N.R. No part of the rails, etc., were sent to France. A small amount of ballasting only has been done on the Hudson Bay Ry., during this year. The contract for ties let in May to be delivered on the H.B.R. were for renewals on that line. The work of completing the railway from mileage 332 to mileage 424 at Port Nelson, will be gone on with as soon as the financial condition of the country will permit. The reason why no work has been done this year is the urgent need for the completion and building of branch lines in other parts of the west. The government bought 35,999.3 gross tons of rails in the United States, which were rolled for the Russian Government, and these rails were used for branch lines and betterments to existing railways throughout Canada, owing to Canadian rails not being obtainable, due to Canadian rail mills being utilized for the production of munition steel. (Sept., pg. 491).

**Kettle Valley Ry.**—A press report states it is generally assumed that the company will build a branch line southerly from Penticton, B.C., to Dog Lake, that a barge service will be operated on the lake from the terminus of the branch to Okanagan Falls, and that a line will be built thence to Oroville, B.C.

We are officially advised that the bridge will be 1,163.8 ft., between parapet walls, and will be composed of 6 towers, 2 of 70 ft. span, and 4 of 80 ft. span, with seven 100 ft. deck plate connecting girders. The maximum height from bottom of foundation to base of rail will be 290 ft. The substructure will be composed of 2 reinforced concrete

abutments and 24 pedestals, all of 1, 2, 4 concrete.

**Lacombe and Northwestern Ry.**—A press report states that laying rails on the extension from the present terminus near Bentley, towards Rimbe, Alta., will be started at an early date. The bridge near Bentley, which was holding up the work, was reported to have been completed Oct. 6. This is a timber structure 700 ft. long. (Aug., pg. 431).

**Pacific Great Eastern Ry.**—Tenders were received to Oct. 15 by A. F. Proctor, Chief Engineer, British Columbia Railways Department, for the supply, fabrication and erection of steel for the superstructure of the viaduct over Deep Creek, in the Cariboo District, at mile 294 from Squamish.

**Pas, Man., to Flin Flon Mine**—A press report states that the Flin Flon Mine, about 70 miles from Pas, Man., has been sold to Hayden, Stone and Co., of Boston, Mass., which controls a number of low grade copper mining concerns in Utah, Nevada and elsewhere in the United States. It is reported that the sale was only concluded on the definite assurance having been made that a railway would be built to the property. The new owners, it is stated, propose to spend from \$12,000,000 to \$15,000,000 to fully develop the property, erect smelters, etc. It is estimated that the property contains 20,000,000 tons of copper bearing ore. Hayden, Stone & Co., advised Canadian Railway and Marine World, Oct. 20, that they had not bought the mine, but it is said they have an option on it.

A railway from the Hudson Bay Ry., near Pas, to the mine, would be about 70 miles long. The Canadian National Ry. officials gave the matter some consideration in March, and F. Gordon, of its engineering staff, is reported to have surveyed a line of 72 miles, the estimated cost of which is \$2,000,000. Negotiations for the building of this line are reported to have been in progress, and the Premier of Manitoba is reported to have said that of the Dominion Government does not build the line the Manitoba Government will. (Oct., pg. 536).

**Reid Newfoundland Co.**—In an address to the electors of Newfoundland, where a general election is to take place Nov. 3, the Premier, Sir M. P. Cashin, referring to the railway contract existing between the government and the Reid Newfoundland Co., says: "It is provided by contract that the railway system of the colony shall be operated 'efficiently and continuously, and that it shall be maintained in a safe, efficient, and satisfactory manner.' It is undeniable that for years the contracts have not been kept in either particular. The difficulties naturally incident to the operation of new railways explained and excused this to a certain extent, for a few years, and surrounding conditions during the great war prolonged the period, but it is manifest that radical improvements are now essential, and earnest, vigorous efforts shall be made to bring these about. Measures for re-railing, and for providing adequate equipment, are in contemplation, and when these have been negotiated and enacted, great improvement in operation will follow. A change in the location of the main line, so as to swing it more towards Hall's Bay, and branches to Hall's Bay and around the north side of Bonavista Bay, to a port in Fogo Dis-

**Stewart to Big Missouri, B.C.**—A press report states that Sir Donald Mann paid a visit recently to the Big Missouri mining district of British Columbia, where he met mining and engineering experts in consultation respecting the development of the district. The report adds that it is not improbable that a railway may be built from Big Missouri to Stewart, and that construction may be started in 1920.

It will be undertaken. Partially constructed branch lines will be completed and extended as rapidly as financial conditions permit."

We are officially advised in connection with the press report that a railway is to be built from Port aux Basques to Curling, that it is a highway for motor traffic which is projected, not, a railway. The Reid Newfoundland Co. is in no way interested in the work. (See Newfoundland Railway Extension, Oct., pg. 536).

**Timiskaming and Northern Ontario Ry.**—We are officially advised that the engineering party under W. R. Maher, which left Cochrane, Ont., at the end of May, for the collection of additional information with reference to the general physical features and economic resources of the country between Cochrane and James Bay, has returned recently to Cochrane. The data, that has been obtained, is being compiled and a report will be presented to the T.&N.O.R. Commission in due course. (Sept., pg. 491).

### Railway Rolling Stock Orders and Deliveries.

The Canadian Locomotive Co. has resumed operations, after a long strike of its employees.

The Anglo - Newfoundland Development Co. has ordered 16 box cars, 12 flat cars, and 1 caboose from Canadian Car & Foundry Co. Delivery of the box cars is to commence Dec. 1, and of the other cars during December.

The Cordoba Central Ry., Argentine, South America, has ordered 6 Mikado locomotives from Montreal Locomotive works. They will be 165,000 lb. total weight, 123,000 lb. on drivers, with 48 in. diam. driving wheels and 21½ x 24 in. cylinders.

The C.P.R., between Sept. 18 and Oct. 13, received the following rolling stock from its Angus shop, Montreal—11 steel baggage and express cars, 70 ft. long; 5 steel tourist cars; 97 freight refrigerator cars; 51 steel flat cars, 41 ft. long, and 3 Pacific type locomotives.

The Dorado Extension Ry., for which the Canadian Car & Foundry Co., is building, 15 car underframes, and trucks, as mentioned in our last issue, is located in Columbia, South America, with headquarters at Handa and Maraquita. The head offices are in London, Eng., and the order was placed through Bliss Dallett and Co., New York.

Canadian Car & Foundry Co., between Sept. 3 and Oct. 15, delivered 179 repaired box cars, and 136 repaired hopper cars, to the G.T.R., out of a total order for 2,500; 615 repaired cars to the Grand Trunk Pacific Ry., out of an order for 1,550; and 1 tourist car and 185 stock cars to Canadian National Rys. It received an order from Canadian National Rys. for repairing 1 damaged baggage car.

The U.S. Commerce Department reports 69 locomotives expected from the

U.S. in August, valued at \$1,530,540. Of these, 7 were exported to Canada, value, \$57,205; 2 to India, valued at \$17,205, and 2 to South Africa, valued at \$28,800. The exports also included one passenger car, and 2,888 freight cars, valued at \$4,723, 239; among them being 61 freight cars to Canada, \$42,040; and 289 freight cars to India, \$594,388.

The G.T.R. was stated in Canadian Railway and Marine World for October as having received between July 11 and Sept. 11, among other rolling stock, 44 steel frame box cars, 2 steel frame stock cars and 9 all steel mail cars from Canadian Car & Foundry Co. This information was obtained from an official source, but we are now officially advised that this equipment has not been received and was still on order on Oct. 8.

The Canadian National Rys. 9 steel mail cars, being built by Canadian Car & Foundry Co., details of which were given in Canadian Railway and Marine World for October, pg. 538, will be identical with the specifications for steel full mail cars, approved by the Board of Railway Commissioners, as published in Canadian Railway and Marine World for September, page 473. Those specifications provide that the roof may be either clerestory or turtle back type. The C.N.R. has adopted the clerestory type, with pressed steel carlines. The floor plan given in our September issue was of a 60 ft. car. The C.N.R. ones will be 73½ ft. over end sills.

The Canadian Car & Foundry Co. is reported to have orders on hand totaling \$8,000,000, and is expecting to receive a considerable amount of foreign business during the next few months. It is stated that enquiries are being made for freight cars for Roumania, Bulgaria, Russia and Poland, the conclusion of such contracts being merely a matter of credits. Senator Beaubien, one of the directors, and D. P. Lamoreaux, Vice President in charge of sales, are in France, where it is hoped some large orders will be obtained, and it is also stated that orders may be placed by the Ukrainian Government. A statement is reported by a leading Canadian railway man that Canadian railways will require 50,000 freight cars in the near future.

### Grain Inspected at Western Points

The following figures compiled by the Dominion Bureau of Statistics shows the number of cars of grain inspected on railways at Winnipeg and other points in the western division for Sept., 1919 and 1918, respectively.

	Sept., 1919	Sept., 1918
C.P.R. ....	10,878	5,260
C.N.R. ....	7,100	4,122
G.T.P.R. ....	2,829	811
G.N.R. (Duluth).....	130	196
Total .....	20,937	10,389

**Railway Crossing Gates**—The coroner's jury, at an inquest in Montreal on the body of Norah Ryan, who was killed by being struck by a G.T.R. train at a level crossing at Dorval, Que., Oct. 14, recommended that the Board of Railway Commissioners be asked to order railways to build crossing gates in such a way that people cannot crawl under them. The evidence showed that Miss Ryan had passed under the gates after they had been lowered to stop traffic for an oncoming train.

An English railway is painting the hand rails of its freight cars white, so that trainmen can see them more easily at night.

### Canadian Pacific Railway Construction, Betterments, Etc.

**Quebec Station**—A press report states that in connection with some improvements about to be made in connection with the lighting of, and the sidewalks leading to the C. P. R. Palais station, the umbrella covering on the platforms will be extended for 100 ft.

**Edwardsburg, Ont., Spur Line.**—A press report states that the company is preparing plans for the construction of a spur line of about a mile from its Ottawa-Prescott line, to serve the Crowder's Hill district of Edwardsburg Tp., Grenville County, Ont.

**Guelph, Ont., Freight Sheds**—An intimation is reported to have been received by the Secretary of the Guelph, Ont., Chamber of Commerce, that it is the company's intention to demolish the present freight sheds on Woolwich St., and erect new and modern freight sheds on the same side and that the work will be gone on with next spring.

**Galt-Woodstock Automatic Block Signals.**—Work is reported to be in progress on an extension of the installation of automatic block signals on the main line between Toronto and Detroit. This system of signals has already been installed between Toronto and Galt, 57 miles, and the section on which work is now in progress extends from Galt to Woodstock, 30.6 miles. The work on the 11 miles from Galt to Ayr, is reported to have been completed. The system is described as the normal clear automatic electric signals of the General Railway Signal Co's absolute permissive block type.

**Rosburn Subdivision.**—The Board of Railway Commissioners has authorized the company to carry its line across the Canadian Northern Ry. at mileage 0.02 Rosburn Subdivision, Man., in sec. 10, Tp. 21, Range 28, west 1st. principal meridian.

**Leader to Cantaur, Sask.**—We are officially advised, in connection with the reported construction of a line from Leader to Cantaur, Sask., that a contract has been let to the John Stewart Construction Co., for grading 25 miles southerly from Leader, and that the work is in progress.

The extension of this line to connect with the Empress Subdivision, we are advised, is not at present under consideration, but may be taken into account when the 1920 construction programme is being arranged.

**Vancouver Ferry Slip**—The Board of Railway Commissioners on Oct. 3, authorized the building of a construction truss 3 track ferry slip, with moving leaf on the south shore of Burrard Inlet, Vancouver, B.C. As stated in Canadian Railway and Marine World for March, we were officially advised that the company had decided to proceed with the erection of a new ferry slip at Vancouver, being the first part of a complete plan for the development of the company's marine interests, recommended by a special committee of officials which had had the whole matter under consideration. In July work was reported to be in progress in the way of making test borings for foundation work. (Oct., pg. 535).

The National Association of Railway & Utilities Commissioners, in annual convention at Indianapolis recently, passed a resolution urging the return of United States railways to private ownership not later than Dec. 31.

## Traffic Orders by Board of Railway Commissioners.

### Quebec, Montreal and Southern Ry. Passenger Fares.

28,837, Oct. 3. Re application of Quebec, Montreal & Southern Ry. for permission to increase, from 3.45c to 4c a mile, the rate shown in its tariff C.R.C. 262, as its standard passenger fare between all stations on its railway in Canada, upon hearing the application at Montreal, Jan. 16, 1919, the City of Sorel, the applicant company, and certain parishes along the railway being represented, it is ordered that the company be authorized to increase its standard maximum passenger fare from 3.45c, as shown in its standard passenger tariff, C.R.C. 262, effective Mar. 15, 1918, to 4c a mile; the increased fare herein authorized not to become effective until the company has complied with the requirements of sec. 334 of the Railway Act, 1919.

28,855, Oct. 7. Re application of Quebec, Montreal & Southern Ry., under sec. 334 of the Railway Act, 1919, for approval of its standard maximum passenger tariff, C.R.C. 274, effective Oct. 19, 1919; the said tariff having been filed on the basis permitted by the board in its order 28,837, it is ordered that it be approved, subject to compliance with the requirements of sec. 334 of the Railway Act, 1919.

### Interswitching Charges West of Lake Superior.

28,854, Oct. 3. Re order 26,671, Oct. 22, 1917, made upon complaint of Premier Coal Co., Alberta Block Coal Co., and Midland Collieries, disallowing tolls published and filed by the Canadian Northern, Canadian Pacific, and Grand Trunk Pacific Railways, for switching, west of Lake Superior, freight traffic on which the said companies, respectively, had received, or were to receive, a line haul, the said tolls having been charged because the switch movement exceeded in distance 1,000 ft. and re application of C.P.R. for an order rescinding order 26,671, upon reading the submissions filed, and the report and recommendation of the board's Chief Traffic Officer, it is ordered that carriers operating west of Lake Superior, which may be called upon to perform, on long sidings, or spurs, the additional terminal service of switching, by locomotive power, freight which, in the same cars, has been, or is to be, line-hauled by the switching carrier, or a connecting carrier, may, on lawful publication thereof, charge and collect for the said switch movement from or to the entrance to the said siding, or spur, not more than the following tolls in addition to other tolls lawfully chargeable, viz.:

If the distance is over 1,000 ft. and not over 2,000 ft.....	\$1.00 a car
If the distance is over 2,000 ft. and not over 4,000 ft.....	1.50 a car
If the distance is over 4,000 ft. and not over 2 miles.....	2.00 a car
And for each additional mile or fraction of a mile.....	.50 a car

The judgment on which the above order was based was given by Commissioner Goodeve as follows: As pointed out in the memorandum of the Chief Commissioner, dated Dec. 17, 1917, order 26,671, was issued in accordance with the judgment of myself, concurred in by him, based on the evidence as submitted at the hearing in July, 1916, at Calgary. The C.P.R. asked for a hearing in Ottawa in the last week of Nov., 1917. The board, at the time, declined to list the case for

hearing, the company having been given an opportunity to file a statement showing the practices which in fact apply in connection with other private sidings, and at the coal mines. The company filed its memorandum covering these points, dated at Winnipeg, Nov. 23, 1917. On receipt of this memorandum the whole matter was referred to the board's Chief Traffic Officer, J. Hardwell, to make a careful study of the whole situation and submit his report to the board in light of the above information, as well as previous evidence in the case. Following this direction, Mr. Hardwell made a carefully considered report on Dec. 5, 1917, in which he recommended for adoption a revised basing scale. Copies of this report, together with copies of the memorandum submitted by the C.P.R., were sent to the different industries affected for their consideration, and they were directed to make any submissions they might desire in writing to the board. After these submissions had been received, the Chief Traffic Officer made another report on July 31, 1919, dealing with the various points raised in the several submissions, and confirming the recommendations made in his original report of Dec. 5, 1917.

In the tariffs disallowed by order 26,671, the rate provided for switching cars on private sidings, or spurs, was as follows: For distances up to 1,000 ft., no charge was made; for distances over 1,000 ft., and not exceeding 2 miles, an additional charge of \$2 a car was made; and for distances for over 2 miles, 50c a mile or fraction of a mile was added to the 2 mile charge of \$2. Distances were reckoned from the head block, where the spur leaves the yard lead within the radius of customary switching operations.

Mr. Hardwell's recommendation was as follows: "From the entrance to the spur, 1,000 ft., free, as now; over 1,000 ft. and not over 2,000 ft., \$1 a car; over 2,000 ft. and not over 4,000 ft., \$1.50 a car; over 4,000 ft. and not over 2 miles, \$2 a car. This would break up the present first chargeable block into three parts. Each mile, or fraction of a mile, over 2 miles, 50c a car in addition to the charge of \$2 as at present. If the spur begins outside of the customary switching area, or beyond the yard limit, I propose the assumption that the connection was a voluntary one on the railway company's part in the interest of traffic, and that no further charge ought therefore to be made; in other words, that the reckoning should be from the head-block of the spur in all existing cases, and that for the present purpose all existing connections be assumed to be voluntary. Further, that should the board require a main line to be cut in the future for private spur construction against the railway company's objections, it should, at the same time, prescribe the extra switching toll, if any, to be charged. There are instances where the locomotive's work ceases at the entrance to the spur, the car proceeding thence by gravity to the plant, where it is blocked, and again from the plant to the main line or lead at the other end. In such instances, of course, no charge should be assessed for unperformed service."

A consideration of the data that has been submitted since the hearing in Calgary upon which my judgment was based, and the board's order issued, has led me

to the conclusion that the board would now be justified in fixing a limit for free switching and providing a rate basis for switching beyond that limit. I think the rates and conditions as set forth in Mr. Hardwell's report are fair and reasonable, and should be adopted by the board. Order to go accordingly.

Commissioner Boyce gave the following judgment: "I agree that Mr. Hardwell's original report as confirmed by the judgment of the ex-Chief Commissioner of Dec. 17, 1917, should, with his subsequent memorandum of July 31, 1919, be accepted as the board's judgment and be communicated to the parties accordingly."

Commissioner Rutherford concurred.

### Express Classification of Ice Cream.

28,883, Oct. 9. Re application of Canadian Association of Ice Cream Manufacturers, for a reduction in the express classification of ice cream from the 1st class to the 2nd class. Upon hearing the matter at Toronto, Feb. 5, 1919, and in Ottawa, Mar. 19, 1919, the applicants, the Express Traffic Association of Canada, the Canadian Manufacturers' Association, and the Montreal and Toronto Boards of Trade being represented and what was alleged, and upon reading the written submissions filed, it is ordered that the application be dismissed.

### Commodity Rates on Canned Goods in Carloads.

28,894, Oct. 14. Re complaints of the Dominion Canners, Ltd., Hamilton; Canadian Cannery, Ltd., Toronto; Quality Cannery of Canada, Ltd., Windsor; Frankford Canning Co., Trenton; Oshawa Canning Co., Oshawa; Northport Canning Factory, Northport; John W. Hyatt & Sons, Picton; Ingersoll Canning & Preserving Company, Ingersoll; E. D. Smith & Sons, Winona; Canadian Wholesale Grocers' Association, Toronto; Montreal Wholesale Grocers' Guild, Montreal, and Quebec Wholesale Grocers' Guild, Quebec, against proposed cancellation by railway companies of special commodity rates on canned goods in carloads. Upon reading what has been filed on behalf of the complainants and the railway companies, it is ordered that the following schedules be suspended, pending a hearing of the matter on a date to be fixed by the board, namely: C.P.R. Supplement 5 to tariff C.R.C., no. E-3391; G.T.R. Supplement 2 to tariff C.R.C., no. E-4012; Canadian National Rys. Supplement 6 to C.N.R. tariff C.R.C., no. E-1119; Michigan Central Rd. Supplement 4 to tariff C.R.C. no. 2890; Toronto, Hamilton & Buffalo Ry. Supplement 5 to tariff C.R.C., no. 1202; Pere Marquette Rd., item 55-A, Supplement 8, to tariff C.R.C., no. 2260.

### Rates on Agricultural Lime or Stone Dust.

28,906, Oct. 11. Re application of the Henderson Farmers' Lime Ltd., of Woodstock, Ont., for suspension of proposed increase in rates on agricultural lime or stone dust from Kirkfield, Ont., and re order 28,073, Feb. 5, 1919, suspending G.T.R., Supplement 16, to Tariff C.R.C. no. E-4024, and the cancellation of item 195 in C.P.R. Supplement 14 to Tariff C.R.C. no. E-3551; upon hearing the matter at Toronto, June 5, 1919, and in Ottawa, July 8, 1919, the complainant company, Crushed Stone, Ltd., Ontario Agricultural College, Canadian Manufactur-

ers' Association, Grand Trunk and Canadian Pacific Railways, and Toronto Board of Trade, being represented, and what was alleged; and upon reading the written submissions filed, it is ordered that the G.T.R. Supplement 16 to Tariff C.R.C., no. E-4024, and the cancellation of item 195 in C.P.R. Supplement 14 to Tariff C.R.C., no. E-3551, be disallowed.

**Chatham, Wallaceburg and Lake Erie Ry. Freight Tariff.**

28,915, Oct. 18. Re application of Chatham, Wallaceburg & Lake Erie Ry., under section 330 of the Railway Act, 1919, for approval of its standard freight-tariff C.R.C. 576, effective Nov. 8, 1919; upon the report and recommendation of the board's Chief Traffic Officer, it is ordered that the said tariff be approved, together with a copy of this order, to be published in at least two consecutive weekly issues of The Canada Gazette.

**Grand Trunk Railway Construction, Betterments, Etc.**

**Prescott Coal Dock**—We are officially advised in connection with the reported laying out of a coal terminal dock at Prescott, Ont., with car ferry connection to Ogdensburg, Ont., that the matter has been under consideration, that is being held in abeyance.

**London Reclamation Yard**—A press report states that the company will establish a reclamation yard at London, Ont., just each of Egerton St., between

the main line and the Stratford line. From the latter line a spur will be run into the site. Scrap of all kinds will be taken to this yard from all parts of the Western Ontario lines, sorted, broken up and otherwise dealt with. The nearest reclamation yard at present on the company's lines is at Montreal.

**Windsor Tracks**—A Windsor, Ont., press report states that the question of the removal of the G.T.R. tracks from the river front to the other side of the city will be pressed upon the consideration of the management as soon as possible after the company's property has been transferred to the Dominion Government.

**Palgrave Station**—The Board of Railway Commissioners has approved of location and detail plans for a new station at Palgrave, Ont., on the Hamilton-Allandale line.

**Gravenhurst Station**—We are officially advised that the company is building an improved passenger station at Gravenhurst, Ont. The entire work, with the exception of the terrazzo floor, is being done by the company's own staff, the interior finish and seating being prepared in the company's shops at London, Ont. The building is 68 ft. long by 25 ft. deep for the main structure, and 15 ft. for the baggage room addition. The roof has an overhang of 7 ft. all round, and there is a covered shelter 16 x 15 ft. at the end of the baggage room. A paved sidewalk leads to the main entrance porch at the roadway front of the building. This opens into the main waiting room

46 ft. 8 in. x 20 ft., of which are in women's waiting and retiring rooms, men's waiting room and lavatory, and station agent's office. A section of the latter office is set apart for the conductors, entrance being obtained from the platform. The baggage room is 15 ft. x 14 ft. 4 in., the entrance to it being under the covered shelter.

The foundations are of concrete, with a brick wall to the sill line, and the superstructure is of frame, with lap siding above that point. The roof is covered with green asphalt fireproof shingles. The floors of the main waiting room, men's room and lavatories, are of terrazzo flooring, and of the baggage room is of 7/8 in. maple. The interior walls and ceilings are finished with 2 coats of plaster with stucco finish, the ceiling angles being coved. There is a 5 ft. wainscot around the interior walls, panelled with flat wood strips and cap above the baseboard. The interior walls and ceiling of the baggage room are sheeted with 2-8 in. grooved, tongued and varnished lumber. A basement has been provided under the center section of the main waiting room, office and ladies' waiting room, to which access is gained by a stair from the agent's office. The building is to be heated with hot air, and space has been reserved in the basement under the office for the storage of fuel, which will be placed in the basement by means of a coal chute and manhole on the platform. The ashes will be removed from the heating plant at the rear of the basement. The plumbing is connected to a septic tank at the rear of the building. (Oct., pg. 536).

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

	Wheat. Bush.	Oats. Bush.	Barley. Bush.	Flax. Bush.	Rye. Bush.	Totals. Bush.
Week ended Oct. 3, 1919.						
<b>Fort William—</b>						
C.P.R. ....	309,720	54,228	64,938	174	45,000	474,606
Empire Elevator Co. ....	180,245	49,606	8,060	4,821	12,011	254,743
Consolidated Elevator Co. ....	361,434	20,981	20,710	10,413	18,740	432,278
Ogilvie Flour Mills Co. ....	478,627	20,444	36,569	8,353	2,598	566,721
Western Terminal Elevator Co. ....	212,944	27,351	12,607	7,564	10,487	263,853
G. T. Pacific .....	300,240	125,590	15,621	7,564	10,487	459,502
Grain Growers' Grain Co. ....	415,020	142,934	117,664	4,993	78,503	754,121
Fort William Elevator Co. ....	99,624	149,903	20,175	1	17,163	291,858
Eastern Terminal Elevator Co. ....	7,569	13,194	1	23	9,066	20,764
Northwestern Elevator Co. ....	198,840	59,076	46,293	27	48,924	313,298
<b>Port Arthur—</b>						
Port Arthur Elevator Co. ....	476,693	175,123	71,936	11,198	5,175	772,703
Sask. Co-op. Elevator Co. ....	474,914	80,784	16,947	8,216	8,992	589,018
Canadian Government Elevator .....	54,894	54,629	15,355	62	10,793	142,086
Canadian a/c Imperial Government.....	.....	.....	.....	.....	.....	62
Thunder Bay .....	244,055	182,706	23,536	1,530	6,007	462,620
Davidson and Smith .....	57,000	35,643	38,243	71	13,989	186,893
Eastern-Richardson .....	76,819	54,520	1,418	.....	.....	126,817
Vancouver Can. Gov't. Elevator.....	2,162	21,192	.....	.....	.....	23,354
	3,950,800	1,297,904	510,073	57,445	318,529	6,134,751
Saskatoon Can. Gov't. Elevator.....	3,894	19,898	1,538	.....	x5,671	25,330
Moose Jaw Can. Gov't. Elevator.....	16,631	47,204	6,264	568	1,270	77,608
Calgary Can. Gov't. Elevator.....	9,312	17,733	7,193	113	x1,000	38,371
	9,312	17,733	7,193	113	3,020	38,371
<b>Total Interior Terminal Elevators..</b>	<b>29,837</b>	<b>84,835</b>	<b>14,995</b>	<b>681</b>	<b>10,961</b>	<b>141,309</b>
<b>Midland—</b>						
Aberdeen Elevator Co. ....	187,751	10,020	.....	.....	.....	197,771
Midland Elevator Co. ....	54,460	164,904	.....	.....	.....	219,364
Tiffin, G.T.P. ....	298,143	.....	.....	.....	.....	298,143
Port McNicoll .....	386,786	45,501	9,969	.....	.....	442,256
<b>Goderich—</b>						
Elevator and Transit Co. ....	460,748	112,530	.....	.....	.....	573,278
<b>Toronto—</b>						
Campbell Flour Mills Co. ....	59,018	25,125	1,266	.....	.....	85,409
<b>Port Colborne—</b>						
Maple Leaf Milling Co., Ltd. ....	421,657	.....	.....	.....	.....	421,657
<b>Montreal—</b>						
Harbor Commissioners No. 1. ....	316,264	312,676	520,242	.....	14,343	1,163,525
Harbor Commissioners No. 2. ....	644,961	235,213	255,513	.....	50,857	1,186,544
Montreal Warehousing Co. ....	872,977	44,332	114,774	.....	.....	1,032,083
Ogilvie Flour Mills Co. ....	418,362	.....	6,483	.....	.....	424,845
Quebec Harbor Commissioners.....	71,888	21,572	.....	.....	.....	93,460
West St. John, N.B., C.P.R. ....	19,321	.....	.....	.....	.....	19,321
Halifax, N.S. ....	51,199	.....	.....	.....	.....	51,199
<b>Total Public Elevators.....</b>	<b>4,263,585</b>	<b>971,873</b>	<b>908,247</b>	<b>58,126</b>	<b>65,200</b>	<b>6,208,855</b>
<b>Total Quantity in Store.....</b>	<b>8,244,172</b>	<b>2,354,612</b>	<b>1,433,315</b>	<b>58,126</b>	<b>394,690</b>	<b>12,484,915</b>
*Overshipped. xCorn.						

**Electric Railway Fare Increases in United States.**

The New York State Second District Public Service Commission has authorized the International Ry., Buffalo, to increase fares on Nov. 1. The order will permit the company to sell through conductors on the cars 4 tickets for 25c, or to charge 7c for a single cash fare. The present rate in Buffalo is 5c.

Up to date of writing, 389 cities in the United States, having 55% of the urban population, are paying increased rates. Of this total 29 cities are paying a 10c fare; 19 an 8c fare; 100 a 7c fare; 17 of which pay an additional cent for each transfer, and 164 are paying a 6c fare. Fares in the majority of the other cities have been increased, either by a reduction in the length of zones, the adoption of a zone system, the abolition of reduced rate tickets, or a charge for transfers.

Under the service at cost street railway franchise settlement agreed upon recently in Minneapolis, Minn. (subject to referendum vote in December), the city has the option of buying the Twin City Rapid Transit Co.'s property at stated intervals. The valuation fixed for purchase and rate purposes is \$24,000,000 as of Jan. 1, 1919, against nearly \$26,000,000 as of Jan. 1, 1916, estimated by the city engineer, and nearly \$31,000,000 claimed by the company formerly. The company is to be allowed a 7% return on the valuation. The initial fare will be 5c, with variations of 1c, up or down, with rises or declines in earnings. The city council will have control over capital increases and purchases. A reserve fund must be created for repairs, maintenance, renewals and depreciation. A street railway supervisor will be appointed by the city council.

# Electric Railway Department

## Quebec Public Utilities Commission's Judgment on Increased Fares for Montreal Tramways Co.

The Quebec Public Utilities Commission gave judgment, Oct. 14, on the appeals of the Montreal Tramways Co., and of the city and other municipalities interested against the Montreal Tramways Commission's decision of Aug. 29, fixing the fares to be charged by the company for the current year. The judgment follows:—Under the contract between the City of Montreal and the Montreal Tramways Co., dated June 28, 1918, provision is made for the operation of the tramways system serving the City of Montreal and neighboring municipalities upon the basis or principle which may be fairly described as service at cost. To control the operations of the company and adjust all matters between the company and the public, the contract provides for the appointment of the Tramways Commission. Roughly speaking, it is the duty of this commission to make each year an allowance to cover all expense connected with the operation and upkeep of the system, the expense to be allowed at a fixed rate per car mile for motor cars operating under their own power and a separate allowance for trailers; the allowance being divided into the two items roughly described as operating cost and cost of maintenance and renewals. It is further provided that in practically all matters of importance an appeal will lie from the decision of the Tramways Commission to the Public Utilities Commission.

Approximately a year ago the Tramways Commission prepared an estimate of revenue and expenditure for the year and based upon that estimate an increase of the tariff in force at the time the contract came into effect. Its decision was appealed to this commission, and on Sept. 20, 1918, we revised its findings in some respects and made certain allowances in regard to fares which appreciably reduced those fixed by the Tramways Commission.

The year having expired the Tramways Commission has undertaken a further revision of the tariff in view of the fact that for 15 months, from Feb. 10, 1918, to June 30, 1919, during which the contract had been in force, there had accumulated a deficit of \$1,364,111.74.

In order to determine upon what basis the Tramways Commission proceeded we have to examine the contract. It requires that all revenue which may be earned shall be distributed among six different funds, having preference in the order of their enumeration in the contract. The first of these is described as operating costs and taxes, the second, cost of maintenance and renewals, the third, return upon capital value invested at the rate of 6% per annum, the fourth, city rentals, the fifth, contingent reserve fund, and the sixth provides for division, of any surplus there may be. The contract is exacting in requiring that all first five of these funds shall be provided for from the rate of tolls to be fixed, and it is the business of the Tramways Commission to see that the income arising from the operation of the tramways system is sufficient to cover the requirements. The sinking fund is simply there

to take care of any casual surplus that may occur, providing that such surplus shall belong to the company to the extent of 20%, to the city 30%, and to the fund for the reduction of fares, 50%.

In estimating what may be required to be allowed for each car mile, as above stated, the commission must first fix the average density of traffic per car mile, and then base its calculations accordingly. The Tramways Commission has made its estimates and allowances for the various funds according to the experience gained in the operation, as it is bound to do, fixed the density of traffic at an average of 8.4, and made an operating allowance for motor cars and similar allowance of 24.7c a revenue car mile, and of 17.4c for trailers used for the transportation of passengers, for the year ending June 30, 1920. It has also granted the company a maintenance allowance of respectively 8.54 and 7.05c a revenue car mile.

Based upon the estimates required according to this allowance, the Tramways Commission on Aug. 29, 1919, regulated the fares to be charged as follows:—

(a) Day Tariff: From 5 a.m. to midnight, 7c cash, or a ticket to be sold in series of 4 for 25c.

(b) Special Day Tariff: A ticket to be sold in series of 5 for 25c to be good only between 6 and 8 a.m. and 5 and 7 p.m. on week days only.

(c) The present night tariff and school children tariff to remain in force.

There is also a modification in regard to the tariff affecting the City of Lachine, but otherwise there is no change in the tariff in the various places comprised in the territory known as that outside the uniform tariff area which is fixed by the contract. Apart from this slight modification, therefore, any change that has been made affects the uniform tariff territory alone.

From this decision of the Tramways Commission an appeal has been taken to this commission by the cities of Montreal, Verdun and Westmount. The City of Lachine has also appealed, and, apart from joining the other municipalities in the matters affecting the appeal of the City of Montreal, makes a special complaint of its own. Apart from these appeals the company also appeals to us, upon several grounds, some of them concern questions of the interpretation of the contract, which the company submits are purely questions of law and yet remain to be argued. It is agreed that the appeals upon these minor questions cannot sufficiently affect the result to have any appreciable influence upon the fares to be charged. They may therefore be ignored for the present. The main appeal of the company is taken upon the ground that the Tramways Commission has not made a sufficient allowance for operating and taxes, nor a sufficient allowance for maintenance and renewals, and has not taken care, in fixing the tolls or fares, of the accumulated deficit which has been already referred to.

We may deal, first of all, with the appeal filed by the City of Montreal, and which has been joined in by the

other municipalities which have appealed. At the outset of the hearing upon the appeals which was fixed for Sept. 23, the city made application for the appointment of an expert to go into the various questions involved, with the view of giving evidence and otherwise assisting the city in prosecuting its appeal. After some objection as to the matter of delay involved had been disposed of, the order then granted the city's application for the appointment of this expert and provided that he be given all possible information and facilities to prepare a report and give evidence upon the matters in issue.

The expert engaged was J. R. Bibbins, of Chicago, who appeared before us Oct. 2, and gave very interesting evidence. The sum total of his evidence was to the effect that he could not find any reasonable ground upon which to challenge the estimates prepared by the Tramways Commission. After this evidence had been presented the Chief City Attorney frankly asked that the Tramways Commission's decision be upheld. It is well here not to overlook the fact that Mr. Bibbins took the ground that in adopting various reforms in respect of the operating of the cars and the supply of power the operating expenses might be considerably reduced, but that there was no prospect of this being done in time to produce such results as would materially affect the operating expenses for the current year. This may be said to effectually dispose of the appeal filed by the City of Montreal so far as its demand for an order lowering the tariff fixed by the Tramways Commission was concerned.

We come now to deal with the appeal of the company, itself, having regard only to what may be called the major portion of its appeal, as distinct from the several questions as to interpretation of different items of the contract which have practically no bearing on the actual result as to the matter of fares. There has been produced before us a statement upon which the Tramways Commission based its finding, and which provides for all of the items included in the five different funds contained in the contract above referred to. It will be quite unnecessary to go into this statement in detail as the greater number of items therein are not challenged at all. We will deal only with those items in which there is substantial difference between the Tramways Commission and the company. The company has prepared a comparative statement of its estimate and that of the Tramways Commission so far as operating expenses and taxes are concerned. The respective totals are \$5,805,773.09 for the company, and \$5,684,000 for the commission; the main difference being an amount of approximately \$103,500 over and above the commission's estimate for the cost of motive power. It will be pertinent here to deal, as interesting the question of this appeal, with the situation in a very general way, in regard to the supply of power. In this respect the company's installation would appear to be defective. There is no central station, and the various out-



lying stations are supplied from five different sources, without the means of supplementing a deficient supply in one by a surplus from another. This matter is being dealt with in what would appear to us to be a thorough and comprehensive way. Both Mr. Bibbins and ourselves give due credit to the Tramways Commission for its efforts in bringing about this reform. It is quite possible and even probable that when the work now under way has been completed there will be a substantial reduction, it may mean as much as 25% in the total cost of power which is now annually entailed.

The figures under the head of operating allowance and taxes, taking all present features into account, do not appeal to us to afford such variance between those of the company and the estimate of the Tramways Commission in what will be the likely result, as to justify us in disturbing the allowance per car mile which the Tramways Commission has made as above noted.

The next item we have to consider is that of maintenance and renewals. Here there is a very substantial challenge by the company of the estimate arrived at by the Tramways Commission in respect of renewals. The company submits a detailed statement of what it claims to have either expended or contracted for up to date with the authority of the Tramways Commission. This shows a total of \$479,277.41 as against the Commission's estimate of \$400,000. In addition to this difference there are other items covering discarded property, less credits, which brings the actual total, according to the company's sworn detailed statement to \$648,126.11. This is not the sole difference between the company and the commission in respect of its item of maintenance and renewals, but it is the main one and the only one which is substantiated by such detail that in the absence of any proof to the contrary, makes it unquestionably acceptable.

In respect of this matter of maintenance and renewals, Mr. Bibbins was very clear and emphatic. He dwelt upon it with a good deal of insistence, comparing the respective quantities that had been done in various years from 1913 on. He took 1913 as a basic or par quantity and showed that in succeeding years considerably less had been done in varying proportions. He states, and his statement in this respect is simply an affirmation of the elementary truth, that any misplaced economy now in this respect is likely to bring serious reckoning either in the increased cost of maintenance or renewals in time to come. Under these circumstances we feel that we are not justified in allowing anything less in this matter of renewals than the total of \$646,326.11, which the company has submitted and proved to us. We therefore require that the extra amount, over and above the estimate of the Tramways Commission, viz.: \$248,326.11, shall be taken into account as part of the maintenance and renewals allowance and the rate per car mile altered accordingly.

The other items of difference between the Tramways Commission and the company in respect of this allowance for maintenance and renewals are not to be lightly passed over; but on the other hand we think that any actual difference that may be found to have worked out in results in the course of the year can be taken care of out of the probable revenue to be provided.

We have now to consider what has to be done in respect of the deficit of \$1,-

364,111.74. At first view this deficit appears to be quite startling, but an examination as to how it is composed is not without some consolation. We find that of the total amount no less than \$692,694.05 is made up of accrued and unpaid rental to the City of Montreal, provided for in the contract, and \$115,722.01 represents the amount which should have gone into the reserve fund since the contract came into operation, and did not. We do not wish it to be inferred for one moment that these two sums are to be regarded as other than a deficit under the contract, but there is a vast difference between the total amount of the deficit and the sum in which the cost of operation and of maintenance and renewals, also the return upon the fixed capital invested has fallen short, viz.: \$555,595.59 by which these three items have been exceeded. In other words, if the city was able to and did forego what is called its rental, and there were no reserve fund, the actual deficit would be approximately \$500,000. There is no clear and precise provision in the contract to guide us as to what shall be done in the case of a deficit, and we have, therefore, to use our judgment and discretion in regard thereto, bearing in mind all the requirements of the contract, and the existing conditions to which it must be applied. One thing is perfectly clear from the contract, and that is it is the duty of the Tramways Commission, and subsidiarily ourselves, to see that the tolls are such as to cover at least all the first five items of section 92 of the contract, viz.: from operating expenses and taxes to reserve fund, inclusive. This duty is to be done in such a way that no undue burden will be laid upon the public, and, upon the other hand, the system will be maintained in an efficient operating condition, in other words, an efficient and reliable service at cost, as early as this can be installed.

Coming now to the matter of fares we have had to bear several considerations in mind, and it will serve better to state these briefly than at length.

That there is a total present annual expenditure, according to the Tramways Commission's estimates of \$10,757,303.13, which covers all of the obligatory five items required by the contract and stated above.

That to this we have added \$248,326.11 for maintenance and renewals, according to the reasons already given, making a total of \$11,005,629.24.

That there is at present an outstanding deficit of \$1,364,111.74, made up as above stated, of which about \$550,000 is due to the company, and is a preferred charge to the city's rental or the amount payable to the reserve fund.

That while the present is a time of much uncertainty in regard to market conditions, in view of the termination of the war, and that normal industrial activity is in a fair way of being resumed, it is at least as just to suppose there will be a reduction in most commodities entering into the cost of service and upkeep of the company's system as a further increase.

That in fixing tolls, the contract only indirectly and in a contingent way provides for their reduction, while an increase can be decided upon at least each year.

That certain economies in operation are possible according to the best opinion we have been able to secure, and to a certain extent at least are now being undertaken by the Tramways Commis-

sion and the company, the result of which should commence to be effective at an early date and be increasingly appreciable as time to develop them occurs.

That fares should be so adjusted as to facilitate such economies as much as possible. In regard to this matter it was a striking point in Mr. Bibbin's evidence that the speeding up of the cars should be brought about by cutting down stops, and educating the public to board and leave the cars with as little delay as possible. It is quite obvious that the faster the circulation the less the number of cars required, and consequent economy in service. We are aware that steps in this direction have already been taken by the Tramways Commission and we would strongly urge upon its attention Mr. Bibbins' suggestions as to what may be further done in this regard, and the means of doing it.

In regard to delay in the boarding and leaving the cars it is a matter of easy observation that no little time is lost through passengers purchasing tickets, making payment, receiving change, etc. This we hope to do away with as much as possible. If we are to accept Mr. Bibbin's evidence in respect of the matter, and his reasoning in favor of lessening the peak load of traffic in the morning and evening as much as possible is clear and convincing, an elimination of anything tending to increase that load is a right and proper objective.

That fares should be so fixed and adjusted as to yield the revenue required through the public being convinced as much as possible that no more is being charged than is necessary, and avoiding hostility and economies which would diminish the traffic and nullify any increases in fares. In this connection we have been supplied with a long list of cities in which fare increases have occurred, most of them in 1918. Comparing rates in places of similar size and importance to Montreal the tariff we have adopted can by no means be considered burdensome. Also when one takes into account the capital cost involved and operating condition of the system, and the outlay in operation and maintenance are far from excessive. Having regard to all of these matters, we believe we will be consistent with the terms of the contract and do justice to the public and the company in fixing the following schedule of fares, basing our decision upon that of the Tramways Commission, which is approved or modified as in each case specified, viz.:

(a) Day Tariff: From 5 a.m. to midnight, 7c cash, or a ticket to be sold in series of 4 for 25c.

(b) Special Day Tariff: A ticket to be sold in series of 5 for 25c, to be good only between 6 and 8 a.m. and 5 and 7 p.m. on week days only.

Modified to read as follows:

"Day Tariff: From 5 a.m. to midnight, 7c cash, or a ticket to be sold in a series of 5 for 30c, or a ticket to be sold in a series of 44 for \$2.50, the former series to be purchasable either at the company's offices or such other places as it or the Tramways Commission may fix, or on the cars; the latter to be purchasable only at the company's offices or such places as it or the Tramways Commission may fix and alter from time to time."

(c) The present night tariff and school children's tariff shall remain in force;

Approved, as well as the remaining provisions of the decision of the Tramways Commission relating to the tariff.

As no mention is made of transfers in the decision before us, we think it better, in view of article 77 of the contract, to affirm that transfers shall be issued free upon the payment of any fare, and as at present. However, should there be a grave abuse in the use of transfers we desire to reserve to the Tramways Commission all possible authority under the contract to deal therewith. This portion of our judgment is, therefore, not to be considered binding upon the Tramways Commission to the extent indicated, subject, of course, to the right of appeal as to any regulations that commission may authorize.

The new schedule of fares became operative Oct. 26.

### British Columbia Electric Railway and its Fares Claimed to Be Under Dominion, Not Provincial, Jurisdiction.

The enquiry by the British Columbia Public Utilities Commissioner, J. L. Retallack, into the question of whether fares on the B.C.E.R. lines in Vancouver should remain at 6c, as authorized by the B.C. Legislature last session, until such time as the Commissioner should fix a rate, was suspended Oct. 14, when the commissioner adjourned further hearing on the ground of possible lack of jurisdiction, making the following statement:

"The last hearing of this case was held on Oct. 1, and was adjourned to Oct. 6. On Oct. 4 I postponed the hearing which was to have been held Oct. 6, until today without giving a reason. As this enquiry is being held in the interest of the public in its broadest sense, including both the B.C.E.R. and such of the people of the province as are directly affected, and as these hearings are public, thus affording a means whereby this commission can properly make a public announcement, I considered it necessary to postpone the hearing, which was to have been held Oct. 6, until today, and thus to describe for the public information, what makes at least a further indefinite postponement advisable and what may nullify certain proceedings of this commission in this particular case which have taken place.

"On Oct. 4, Geo. Kidd, General Manager, B.C.E.R., called on me and asked if I was informed as to certain amendments of the Dominion Railway Act this year, and particularly directing my attention to the sub-section 21 of section 2, which defines 'railway,' and sec. 6, which is as follows:

"The provisions of this act shall, without limiting the effect of the last preceding section, extend and apply to

"(a) Every railway company incorporated elsewhere than in Canada, and owning, controlling, operating or running trains or rolling stock upon or over any line or lines of railway in Canada either owned, controlled, leased or operated by such company or companies whether in either case such ownership, control or operation is acquired by purchase, lease, agreement or by any other means whatsoever;

"(b) Every railway company operating or running trains from any point in the United States to any point in Canada;

"(c) Every railway or portion thereof, whether constructed under the authority of the Parliament of Canada or

not, now or hereafter owned, controlled, leased or operated by a company, wholly, or partly within the legislative authority of the Parliament of Canada, or by a company operating a railway wholly or partly within the legislative authority of the Parliament of Canada, whether such ownership, control, or first mentioned operation is acquired or exercised by purchase, lease, agreement or other means whatsoever, and whether acquired or exercised under authority of the Parliament of Canada, or of the legislature of any province, or otherwise, howsoever; and every railway or portion thereof, now or hereafter so owned, controlled, leased or operated shall be deemed and is hereby declared to be a work for the general advantage of Canada."

"For the benefit of the public, I will say that the last sentence of the section, viz., 'declared to be a work for the general advantage of Canada,' has a special significance, because under the British North America Act works which before or after their execution are declared by the Parliament of Canada to be for the general advantage of Canada are removed from the provincial jurisdiction. Reading this section with such knowledge as having before me evidence that the B.C.E.R. Co. was not incorporated in Canada and that certain portions of its lines are under Dominion jurisdiction, I at once decided to postpone further proceedings pending being able to obtain the opinion of the law officers of the crown."

### Hydro Electric Railway Projects in Ontario.

Progress is reported as 'being made in connection with the various electric railway projects to be built under the Hydro Electric Power Commission of Ontario's auspices. The first construction will, it is said, be first on the western lines out of Toronto, viz.: to Hamilton and Niagara peninsula, and to Guelph and London, for both of which the line from Toronto to Port Credit will be common. The Toronto City Council has passed a resolution assuming its share of the cost of these lines, in the four municipalities where the bylaws were defeated—the estimated additional cost to Toronto being approximately \$400,000. It was also decided to ask the commission to proceed with the Toronto-Guelph-London line forthwith. The route running into the city from the west is reported to be roughly as follows:—From the Humber easterly along an elevated way just south of the G.T.R. elevated tracks; from Sunnyside easterly on a right of way paralleling the G.T.R., but perhaps on a different level as far as the western boundary of Exhibition Park; likely under that park via a subway; emerging near Strachan Ave., and thence on harbor commission property to near Bathurst St.; thereafter on an elevated structure along the harbor commission's marginal way to the terminal near the foot of Yonge St.

The Hamilton City Council on Oct. 7, passed a resolution asking the commission to proceed with the St. Catharines portion of the line concurrently with the building of the Toronto-Port Credit section of the line to London. The chairman of the Hamilton Hydro Commission is reported to have said Oct. 10, that the preliminaries for construction were proceeding satisfactorily, and that a start will be made this year.

A press report states that the Hydro Electric Power Commission is consider-

ing the proposal to acquire the Dominion Power and Transmission Co.'s electric lines in and around Hamilton, in connection with the project for connecting up Hamilton with the Toronto-London line at Guelph. Another press report stated that a valuation was being made of the company's property with this object in view. Surveys are reported to have been completed for the new lines proposed in this connection, and bylaws have been prepared to be sent on for consideration of city, town and other municipalities interested, the object being to have them voted on at the municipal elections in January. No details have been made public up to the time of writing, as to the route, or the estimated cost to the several municipalities. The line, it is stated, will serve Dundas, Galt, Preston, Guelph, Kitchener and Elmira.

In connection with the project for a line from Toronto easterly, it is reported that the entrance into Toronto will be by a north and south line in the vicinity of Morley Ave., and that the traffic will be taken down to the water front in the vicinity of the union station. Sir Adam Beck has addressed meetings at Whitby, Oshawa, and other points in support of the project, which involves the purchase from the Canadian National Ry. of the unfinished Toronto Eastern Ry. A bylaw favoring this purchase was passed by Pickering Tp. ratepayers, Oct. 12, by 473 to 34. Scarborough Tp. ratepayers will vote on the question Nov. 22, and it is expected that the bylaw as to the whole project, will be voted upon by Toronto and other municipalities at the municipal elections in January, 1920.

It was announced Oct. 15 that application had been made by the Hydro Electric Power Commission to the Ontario Government for the passage of two orders in council, one to authorize the submission of estimates and agreements covering the construction and operation of an electric railway to link up Hamilton, Galt, Preston, Hespeler, Guelph, Kitchener, Waterloo and Elmira; the other to authorize the submitting of an agreement covering the purchase of the Sandwich, Windsor and Amherstburg Ry., and the Windsor & Tecumseh Electric Ry., including the acquiring and operating of the electric distribution systems of Windsor and Sandwich.

The British Columbia Electric Ry. has experienced some trouble recently on its high tension wires from Lake Buntzen power plant. On Sept. 30, the power was off for 25 minutes and shortly afterwards for half an hour before the steam plant could be got into working order. It is said that during the many weeks of dry weather, the insulators on the poles carrying the 34,000 volt lines become covered with a coating of soot, ash and fine dust, presumably from the mills along False Creek. Then when rain fell, this moist accumulation caused short circuits in the lines, in many cases setting fire to the poles. This occurred on Sept. 30, at various points on the lines. Linemen were immediately sent out to locate the trouble, but the physical work of setting up the lines again required time, and there was no assurance that other short circuits might not occur.

The Regina, Sask., City Council, on Oct. 7, refused to carry or reject a bylaw to permit the operation of one-man cars on the Regina Municipal Ry., but adopted an amendment to allow the bylaw to remain on the agenda paper for future meetings.

## Winnipeg Electric Railway Authorized to Increase Fares Temporarily.

P. A. Macdonald, Manitoba Public Utilities Commissioner, issued an order, Oct. 3, authorizing the Winnipeg Electric Ry. to charge a 6c fare temporarily, pending the conclusion of the hearing of its application for a permanent increase in fares. The order was as follows:

"This application asked for an increase in fares to provide revenue to meet \$302,000, being the amount required to meet one year's increase in wages recommended by the finding of the conciliation board, known as the Mathers award \$66,000 of this sum required was to meet a situation created by the fact that the award referred to recommends that the increase should date back to June 26 last, while \$107,600 is the sum claimed to be in excess of operating costs and overhead charges over revenue, in the company's operations during the nine months beginning Nov. 1, 1918.

"The application is a special one made during the pendency of a major application by the company for a permanent increase in fares to meet conditions which, it is claimed, have so changed since the date of the contract between the city and the company that the company is not now able to secure a fair return on its investment. This major application involves an elaborate investigation into the company's affairs, and will not be determined probably until the end of the year. Meantime expenditures in wages over and above what have to be provided under the existing scales will have to be met and the company claims it has no means to meet these increases without additional revenue.

"Now considering the three items in the claim, there is a difference in principle between the first and remaining two items. The item \$107,000 is for a deficit over nine months, and will be fully examined in the major application, and until it is the commission cannot accept it as proven. In that application it will be fully investigated, as will also the question whether the loss already incurred can be made good by fares to be collected in the future. The item \$66,000 for back pay is one that is impossible to fully provide for in this application. This sum is overdue and the company must find means of furnishing it. When its general deficit is increased to that extent, all benefit that the company is entitled to will be provided in the major application. The Mathers award affects the payroll of the company approximately \$287,650, and this sum will be the total amount that is in issue in this emergency application. Counsel for the city strongly opposed the application, the usual objection being taken to the appointment of the Utilities Commission, and that the commission has no power to act to vary the contract. These questions are not new and with this application the commission will follow the course adopted of overruling the objections.

"Counsel claimed that other means to overcome the situation should be adopted. It was suggested that more capital should be obtained, that the shareholders should reorganize by surrendering portion of their holdings, that the bondholders should be treated as shareholders and their interest made use of. These questions, together with the question of excessive capitalization, watered stock and large dividends paid in the past, the prices charged for power, and non paying sections, are all more or less interested

in the major application, and this commission is not passing judgment on them now.

"This application is analogous to the special application made by the company for an emergency increase for the price of gas to meet the increase in the price of coal in 1918. The application asked for an increase in order that the company might give its shareholders a fair return upon their investment in the gas industry. It was just such an application as is before me at present for an increase in rates on street cars, to provide a fair return on the investment in the street railway department of the company's business, which application is referred to herein as the major application.

"To arrive in a judgment in the gas matter, time was required to investigate the whole of the activities of the company, but there was a sudden jump in the price of coal of 50%, and it was evident that gas could not be supplied under the new conditions at the price then current. Without considering any other question other than what the increase in the price of coal would mean in additional operating costs, an order was made raising the rate to a figure that would make provision for that increase. So in this matter the commission leaves all other questions to be dealt with on the major application and deals only with the amount that will be required to provide for the increase of wages, the additional fare that will be required to meet it and the necessity for an emergent order.

"As justifying it in making a special request at this time, the company submits all its receipts and disbursements for the last nine months. These statements show that without providing any interest on capital investment there has been a deficit of \$107,000. This commission does not accept these figures as proven, but considering, with the knowledge that the commission has, of the financial condition of the company for the last three years, during which no dividends have been paid, while different applications for increased mileage have been denied because of the company's financial inability, and while it is common knowledge that similar conditions prevail in street railway enterprises all over the continent, this commission accepts, as a fact, for the purpose of this application only, the statement that the company is not in a position to meet from its earnings the increased amount required to meet the demands of the Mathers award.

"The commission is of the opinion that the company's financial position justifies it in making this application, and that relief is necessary to protect the investment from serious loss. The amount to be provided for is in the neighborhood of \$290,000 and I make the following order: Car fares, 6c; 55 tickets for 30c; 9 tickets for 50c; workmen's tickets—conditions as at present—5 for 25c; school children's tickets remain as at present. This to remain until an order upon the major application is made."

The order was also made applicable to the City of St. Boniface, and all other municipalities affected by the fares charged in Winnipeg.

The company proceeded to put the order into effect on Oct. 4, but was not enabled to continue to collect the increased fares throughout the day, as acting

on the city council's instruction, the city solicitor made an application to the courts for an injunction prohibiting the company from acting on the order. An interim injunction was granted by Justice Macdonald, who before granting it asked if the city would undertake to make good any loss that might be occasioned to the company by its not being able to charge the extra fare, if the Public Commissioner's decision was upheld by the courts. The required promise was given, and was incorporated in the order of temporary injunction. In obedience to this temporary injunction the company at once reverted to the fares in effect prior to Oct. 4.

On Oct. 8, Justice Galt dissolved the temporary injunction. He held that the agreement between the city and the company was very old and had been confirmed on two occasions by the Manitoba Legislature. Under the Public Utilities Act, the Commissioner was authorized to entertain questions arising out of the operation of tramway companies and the Commissioner appeared to have been given the jurisdiction to adjust all rates, either by decreasing or increasing them, as he found reasonable and fair. Dealing with the question of the validity of the act, he said that he was bound to consider the Court of Appeal's decision which was peculiar, as two judges had held one view and the other two the opposite. The appeal against the act on that occasion, had been dismissed. For this reason, he must assume that the act had been recognized as being valid. He was bound by that decision, and the only question left for him to decide was whether the Public Utilities Commissioner was or was not acting within the jurisdiction of the act when he made his award. Under these circumstances, it having been shown by the defence that the Commissioner was within his jurisdiction under the act in making the award, the present injunction could not be considered.

A. W. McLimont, Vice President and General Manager, then issued the following statement:—"In view of the decision dissolving the injunction against our continuing in effect the rates of fare provided by interim order of the Public Utilities Commission, which went into effect Oct. 4, and it having been held by Justice Galt that the Commissioner had jurisdiction to make the order increasing fares, we will re-establish the new rates forthwith. I regret the inconvenience caused the public by the recent charges in fares, but they will realize that these changes were caused by conditions over which we had no control."

The city then carried the case to the Court of Appeals, and on Oct. 17, Chief Justice Perdue reserved judgment on the appeal.

The Winnipeg Electric Ry. is stated by a press report to have entered suit against the city for unstated damages, due to the opposition of the city council to its putting a 6c fare into operation. As stated above, the city obtained an injunction, which was dissolved after five days, preventing the company collecting a 6c fare authorized by a temporary order of the Public Utilities Commissioner. The loss sustained during these five days will probably be the extent of the damages claimed.

The Public Utilities Commissioner is proceeding with his investigation into

the company's affairs in connection with its application to a permanent increase of fares. The most important part of these proceedings is the making of a valuation of the company's property and assets.

### Sherbrooke Railway & Power Co.'s New Agreement With City.

Some time ago a committee of citizens, consisting of the mayor, two ex-mayors, an alderman, an ex-alderman, the City Attorney and the Vice President of the Board of Trade, was appointed in Sherbrooke, Que., to investigate conditions arising under the contract between the city and the Sherbrooke Ry. & Power Co., the company having stated that, unless concessions were made by the city, the operation of the line would have to be discontinued. As a result of the committee's report a bylaw was submitted to the ratepayers on Sept. 15 and was carried by 852 to 339, every ward giving a majority for it. Its principal provisions are as follows:

The following changes were made in fares:

	New	Old
From 6 a.m. to midnight cash	8c	5c
Tickets.....	4 for 25c	6 for 25c
Children under 14, cash.....	4c	.....
Children under 14, tickets.....	8 for 25c	10 for 25c
From midnight to 6 a.m. cash	15c	10c

The limited tickets good from 6 to 7 a.m., 12 noon to 1.15 p.m., and 6 to 7 p.m., which were sold 8 for 25c, have been abolished. Transfers continue to be given free. The new fares are to remain in effect for a year, from the passing of the bylaw, and thereafter to be subject to revision at the request of either the company or the city. In case of disagreement the fares are to be fixed by the Quebec Public Utilities Commission.

The company is to extend its lines on the following streets. Starting from Aberdeen St., along Alexander, Galt, Belvedere, Short, and Drummond Sts. to Pacific St. This extension to be commenced immediately, and put in operation within six months; the company to make such additional extensions as may be agreed on from time to time between it and the city. The company to double track its line from Strathcona Square, along Wellington St. to King St., and for at least 200 ft. east on King St.

The company to raise its rails to the grade required by the city and to do all work necessary to make the lines correspond to the proposed pavement; the cost of the pavement to be paid by the city and the company to reimburse it in 5 equal annual payments with interest for the amount by which the cost of paving any street may have been under the street, between the rails and for 1½ ft. on the outside of each rail, to be done by the city, from specifications and plans to be furnished by the company. Under the previous bylaw the company had to pay the cost of this work. The company is relieved from any part of the expense of bridge planking, or other surfacing if used, for 5 years. The company is relieved of the cost of snow removal for 5 years.

The Sydney Mines, N.S., Trades and Labor Council recently criticized the p.a.y.e. cars, introduced by the Cape Breton Electric Co. Manager Curtis, in reply pointed out that the new system of collecting fares has the most advantages and the fewest disadvantages of any the company could work out.

### Electric Railway Finance, Meetings, Etc.

British Columbia Electric Ry., and allied companies:—

	2 mos. to		2 mos. to	
	Aug. 31,	Aug. 31,	Aug. 31,	Aug. 31,
	1919	1918	1919	1918
Gross .....	\$667,170	\$544,339	\$1,309,260	\$958,307
Expenses .....	500,362	455,903	993,343	850,706
Net .....	166,808	88,436	315,917	107,601

Cape Breton Electric Co.:

	12 mos. to		12 mos. to	
	July 31,	July 31,	July 31,	July 31,
	1919	1918	1919	1918
Gross .....	\$48,748.86	\$44,532.50	\$560,707.43	\$490,079.96
Expenses .....	40,255.04	34,835.41	431,847.30	348,958.14
Net .....	8,493.82	9,697.09	128,860.13	141,121.82

Hull Electric Co.—The following are the directors and officers elected recently for the current year: President, A. D. MacTier, Vice President, Eastern Lines, C.P.R.; Vice President and General Manager, G. Gordon Gale; Grant Hall, Vice President, C.P.R.; I. G. Ogden, Vice President, Finance, C.P.R.; W. R. MacInnes, Vice President, Traffic, C.P.R.; F. L. Wanklyn, General Executive Assistant, C.P.R.; E. Hanson, Montreal.

Levis County Railway—The annual meeting was held in Montreal, Oct. 18. The following are the directors for the current year: President, S. H. Ewing; Vice President, J. C. Blouin; Secretary-Treasurer, E. A. MacNutt; other directors: A. B. Colville, Hon. R. Dandurand, J. A. Ewing, John Foreman. H. E. Weyman has been reappointed Manager, and J. W. Brown is Assistant Secretary-Treasurer. The company is in a receiver's hands, and is expected to be reorganized shortly.

London St. Ry.—At a meeting of the London, Ont., City Council, Oct. 6, the mayor stated that he had received an offer from the company for the sale of the railway and other property. The price quoted was too high, and he had so informed the company. No other price had since been mentioned. The price asked by the company is reported to have been on the basis of \$50 for each \$40 share.

The Montreal & Southern Counties Ry. Co.'s annual meeting was held at Montreal, Sept. 25. Following are the directors for the current year: President, H. G. Kelley, President, G.T.R.; Vice President & Treasurer, Frank Scott, Vice President and Treasurer, G.T.R.; Vice President, J. E. Dalrymple, Vice President, Traffic, G.T.R.; General Council, W. H. Biggar, K.C., Vice President and General Counsel, G.T.R.; W. D. Robb, Vice President, Transportation and Maintenance, G.T.R.; Secretary, J. A. Yates. The other officers are: General Manager, W. B. Powell; General Auditor, J. M. Rosevear, Comptroller, G.T.R.

Montreal Tramways Co.—At the recent annual meeting the directors were all re-elected. Following are the officers for the current year: President, E. A. Robert; Vice Presidents, Hon. G. G. Foster, K.C., and J. W. McConnell; Secretary-Treasurer, Patrick Dube; General Manager, J. E. Hutcheson; Assistant Secretary-Treasurer, A. E. Shaw.

Port Arthur Civic Ry.—Fort William Municipal Ry.—At a joint meeting of the Port Arthur Public Utilities Commission and Fort William City Council's Utilities Committee, in Port Arthur, Ont., Oct. 2, it was decided to telegraph Sir Adam Beck, Chairman of the Hydro Electric Power Commission of Ontario, asking him to send an expert to make a report on these electric railways.

Sandwich, Windsor and Amherstburg

Ry.—A press report of Oct. 15 states that the Mayor of Windsor, Ont., has been advised by Sir Adam Beck, that he has made application for an order in council permitting the Hydro Electric Power Commission of Ontario to submit to the ratepayers of the border municipalities the question of whether they are in favor of the commission purchasing the S.W. & A.R. An agreement is reported to have been reached between Sir Adam and the company Oct. 13, the amount involved being \$2,000,000.

Toronto Railway:

	9 mos. to		9 mos. to	
	Sept. 30,	Sept. 30,	Sept. 30,	Sept. 30,
	1919	1918	1919	1918
Gross earnings	\$641,423	\$571,637	\$5,206,976	\$4,941,182
City percentage	51,314	45,731	922,387	878,337

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

	8 mos. to		8 mos. to	
	Aug. 31,	Aug. 31,	Aug. 31,	Aug. 31,
	1919	1918	1919	1918
Gross .....	\$1,083,741	\$1,070,567	\$8,194,299	\$8,476,672
Expenses.....	721,687	591,507	5,060,010	4,636,884
Net .....	362,054	479,060	3,134,289	3,839,788

Winnipeg Electric Ry. and allied companies:—

	8 mos. to		8 mos. to	
	Aug. 31,	Aug. 31,	Aug. 31,	Aug. 31,
	1919	1918	1919	1918
Gross .....	\$353,194	\$288,974	\$2,565,812	\$2,388,647
Expenses.....	288,650	217,226	2,030,151	1,820,973
Net .....	64,544	71,748	535,661	567,674

The surplus in August, after allowing for fixed charges, was \$2,547.64.

### Mainly About Electric Railway People.

Henry Davis, who dropped dead at his house in Thorold, Ont., Oct. 14, and who was born in England in 1843, was G.T.R. Agent at Merriton, Ont., for 28 years, until Sept., 1898, when he was appointed Travelling Auditor, Niagara, St. Catharines & Toronto Ry., continuing in that position until Sept., 1919.

R. J. Fleming, General Manager, Toronto Ry. Co., is suggested, by the Toronto Globe, to continue to manage the railway when it is taken over by the city in 1921.

P. A. Freeman, heretofore Chief Engineer and Superintendent of Tramways, Nova Scotia Tramways & Power Co., Halifax, has been appointed Chief Engineer.

A. Gaboury, Superintendent, Montreal Tramways Co., and Vice President, Canadian Electric Railway Association, has been elected a member of American Electric Railway Transportation and Traffic Associations' executive committee.

Ira P. Macnab, heretofore Shop Superintendent, Nova Scotia Tramways & Power Co., Halifax, has been appointed Superintendent of Tramways.

D. M. McIntyre, K.C., Chairman, Ontario Railway and Municipal Board, and ex-Registrar, of Queen's University, Kingston, Ont., took part in the installation of E. W. Beatty, K.C., President, C.P.R., as Chancellor of the university on Oct. 16.

Lorne C. Webster, President, Quebec Railway, Light, Heat and Power Co., and one of the Montreal Tramways Co.'s directors, has been elected a director of the Bankers Trust Co., Montreal.

The Saskatoon, Sask., City Council, which invited tenders a short time ago, for 5 one-man safety cars, did not accept any tender, stating that the figures were considered too high.

## Increases in Electric Railway, Freight and Passenger Rates.

**British Columbia Electric Ry.**—See "B.C.E.R. and Its Fares Claimed to Be Under Dominion, Not Provincial, Jurisdiction," on another page of this issue.

**Guelph Radial Ry.**—The board of conciliation appointed to investigate wages and working conditions recommended in its report, that a straight 5c fare be charged, stating that it was only by charging such a fare that the line could be made to pay. Children under 10 to be charged half fare. This report was adopted by the city council, Oct. 7. In the course of the discussion, Alderman Westoby, chairman of the railways committee, is reported to have that the loss on the railway for this current year is estimated at over \$33,000. A committee consisting of three representatives of the council was appointed to meet a similar number each from the chamber of commerce, the retail merchants' association and the trades and labor council, to discuss the whole situation as regards the railway's future.

**London St. Ry.**—In connection with the bylaw passed recently authorizing the company to charge increased fares on its lines in the city, two actions have been instituted to prevent the company acting on the bylaw's authority. One is an action to quash the bylaw, and the second takes the form of an injunction restraining the company from collecting the increased fares authorized. The city council on Oct. 6, decided to allow the company to defend the actions; both of which were set down for hearing at the sittings of the Ontario High Court in London on Oct. 11, but were adjourned for two weeks. On Oct. 27 Chief Justice Falconbridge gave judgment quashing the bylaw.

**Montreal Tramways Co.**—See under "Quebec Public Utilities Commission's Judgment on Increased Fares for Montreal Tramways Co.," on another page of this issue.

**Moose Jaw Electric Ry.**—The bylaws providing for amendments to the company's franchise, and covering the charging of a 6c fare, the operation of one-man cars, etc., were submitted to the vote of the ratepayers, Oct. 18, the 6c fare bylaw being carried by 695 to 245, and the latter by a majority of 628. The new rate of fare was put into effect on Oct. 19.

**Nova Scotia Tramways & Power Co.**—A Halifax press report, referring to the large amount of betterments and extensions being made by the company on its street railway property in Halifax, says the company will probably apply to the Nova Scotia Legislature next session, for power to charge higher fares, and adds: "This outlay can have but one result, and the citizens know it—that for the better service to follow the completion of the improvements, a higher rate for the use of the tramway must be charged."

**Quebec Ry., Light and Power Co.**—Quebec City Council on Oct. 3, authorized the company to continue to charge the present rates for its gas service, which were fixed in 1918, for another year, and referred the company's application for power to charge increased fares on its city electric railway to the finance committee. At the Finance Committee's meeting, held prior to the council meeting, W. J. Lynch, General Manager of the company, gave considerable information

in elaboration of the reasons for the application for increased fares set out in the company's letter to the council quoted in Canadian Railway and Marine World for October. He stated that the company has 875 employees, representing a population of about 5,000 persons; that the pay roll for 1918 was \$649,000; that an increase of 2c an hour had been given in July, that an increase of 3c an hour was promised as soon as increased fares were authorized, and a further increase of 2c an hour was promised for December. Five large double truck cars were due for delivery during October, and five more by the end of November. The extension which the company undertook to make in Belvedere Road was estimated to cost \$60,000 at the time it was projected, but with the advanced cost of material and labor, it would now cost \$110,000.

The finance committee recommended to the city council, Oct. 17, that the company be authorized to charge increased fares on its lines on condition that its obligations to the city, including the building of the Beauport line and some improvements in Belvedere be carried out. The recommendations were that ordinary tickets be sold 4 for 25c or 17 for \$1; and working men's tickets 6 for 25c; children's tickets to be unchanged, and that no charge be made for transfers. The council referred the report back to the committee for further consideration.

**Saskatoon Municipal Ry.**—The Saskatoon, Sask., City Council decided Oct. 14 to increase the cash fare on the municipal railway from 5c to 6c. Tickets will be sold on the cars at 6 for 35c, and in stores at 5 for 25c. It is stated that the object sought to be obtained by selling the tickets in stores at the latter price is to relieve conductors, as far as possible, of selling tickets and making change.

**The Sherbrooke Ry. & Power Co.**—Full particulars of the advances in fares are given under "Sherbrooke Ry. and Power Co.'s New Agreement With City," on another page of this issue. The cash fare has been advanced from 5c to 8c.

**Toronto & York Radial Ry.**—A delegation from Mimico, New Toronto, and Etobicoke, waited on the Ontario Railway & Municipal Board, Sept. 27, and asked for a reduction in the fares charged on the company's Mimico Division, between Sunnyside and Port Credit, and that a reversion be made to the former schedule. The board stated that it could take no action, as the fares charged are under the maximum allowed by the Ontario Railway Act.

The Winnipeg Electric Ry. has been authorized by the Public Utilities Commission to charge increased fares temporarily pending complete investigation of its affairs. The following table shows the rates at Oct. 31, 1918, the rates authorized by the commissioner, effective Nov. 1, 1918, the latest scale authorized by the commissioner, effective Oct. 4, 1919:

	To Oct. 31, 1918	Nov. 1, 1918	Oct. 4, 1919
Cash fare.....	5c	5c	6c
White tickets, unlimited	6 for 25c	5 for 25c	5 for 30c
Blue tickets, unlimited...	25 for \$1	Eliminated	9 for 50c
Red tickets, good from 6 to 8 a.m. and from 5 to 6.30 p.m., all day Sundays and soldiers in uniform at all times	8 for 25c	6 for 25c	5 for 25c

Children's tickets.....10 for 25c 7 for 25c 7 for 25c limited to under 16 years.

Full particulars of the Public Utilities Commissioner's judgment and of the subsequent injunction proceedings, are given under "Winnipeg Electric Railway Authorized to Increase Rates Temporarily," on another page of this issue.

### Electric Railway Notes.

The Toronto Railway has placed p.a.y.e. cars on its Yonge St. route.

The Kitchener & Waterloo St. Ry. is reported to have bought three p.a.y.e. cars from Cleveland St. Ry.

The Winnipeg Electric Ry. during October received 2 semi steel cars from Ottawa Car Manufacturing Co.

The Chatham, Wallaceburg and Lake Erie Ry.'s Standard Freight Tariff C.R.C. 576, effective Nov. 8, has been approved by the Board of Railway Commissioners.

The Windsor, Essex and Lake Shore Rapid Ry.'s operating rules have been recommended to the Governor General in council for sanction, by the Board of Railway Commissioners.

The Edmonton, Alta., city commissioners received tenders up to Oct. 4, for the privilege of advertising on the back of 5,000,000 red street car tickets, of which approximately 25,000 are used daily.

The Winnipeg City Council is reported to have formulated plans to eliminate within six years street car transportation in Winnipeg, and to replace it with a municipal motor bus service. The Winnipeg Electric Ry. franchise expires in 1927.

The Hull, Que., City Council on Oct. 6, instructed the City Solicitor to write to the Hull Electric Co., and impress on it its obligations to fulfil one of the conditions of its franchise which calls for a satisfactory car service within the city limits.

The Glace Bay, N.S., town council held a special meeting, Oct. 15 to discuss the electric railway service given in the town by the Sydney and Glace Bay Ry., operated by the Cape Breton Electric Co., with which dissatisfaction was expressed.

The Niagara, St. Catharines & Toronto Ry. has had one of its local cars converted into a p.a.y.e. car by Preston Car & Coach Co., the work including the addition of a longer rear vestibule. It is probable that 10 or 11 more cars will be converted similarly.

The Sudbury-Copper Cliff Suburban Electric Ry. has ordered a double truck combination snow sweeper and snow plough of wood from Ottawa Car Manufacturing Co. The dimensions will be: length of flat car, 32 ft.; width of flat car, 9½ ft.; length of cab, 9 ft.; width of cab, 7 ft.; approximate length overall, 42 ft.

London, Ont., City Council has appointed a special assessment committee to take up with the assessment commissioner the question of the revaluation of the assessable property in the city. One of the properties which will be affected is the London St. Ry. which this year is assessed at \$225,000, of which \$121,675 is for rails, poles, wires, etc., on the streets, assessed on a basis of \$5,000 a mile fixed in 1904. It is reported that the new assessment on the company's lines and other property will be put at approximately \$450,000 in the valuation for 1920.

## Electric Railway Projects, Construction, Betterments, Etc.

**Brantford Municipal Ry.**—The Board of Railway Commissioners has approved the proposed location of the Terrace Hill extension at Brantford, Ont. The bylaw authorizing the building of this extension was approved by the ratepayers at the municipal elections on Jan. 1. The route as outlined in the bylaw was from the junction of Market and Marlboro Sts., extending to St. Paul and Brant Ave., but the exact location was not defined. The matter was under discussion by the council in May, but it is only recently that the route has been definitely laid down. Construction will probably be started at an early date. (June, pg. 324).

**British Columbia Electric Ry.**—At a recent meeting of the Point Grey, B.C., municipal council, the reeve is reported to have stated that the B.C.E.R. was completing arrangements for extending its tracks on Grenville St., from the present terminus at Twenty-fifth Ave., as far as Forty-first Ave. (Oct., pg. 553).

**Calgary Municipal Ry.**—A delegation representing the North Hill district, waited on the Calgary, Alta., city commissioners, Sept. 21, in connection with the Center St. extension of the Calgary Municipal Ry., now under construction. After discussing the propositions made the commissioners decided to recommend to council that the line run up Center St., crossing the double tracks on Sixteenth Ave. to Twentieth Ave., turn west as far as Fourth St. W., turn south on this street and run back to Twelfth Ave., then turn west to rejoin the line on Center St. This recommendation was adopted Sept. 29 by the city council which also decided to build a single track extension from Twentieth Ave. and Center St. to join with the Tuxedo line, and for the extension of that line north to Thirty-second St. The city council's decision was not considered satisfactory by the ratepayers of the North Hill district, who called a meeting to discuss the matter. These ratepayers are desirous of having the present Tuxedo line, which was laid under an agreement with the Canadian Estates, taken up, and relaid along Center Ave. (Oct., pg. 553).

**Edmonton Radial Ry.**—The Edmonton, Alta., City Council's utilities committee on Sept. 25, authorized the extension of the Edmonton Radial Ry. on Brandon St., for not less than five, nor more than nine blocks, the distance to be governed by the material on hand; the work to be done during this year. This proposal was discussed by the city council Oct. 7, when delegates from the localities interested were present and presented alternative propositions. After discussion the council referred the whole matter back to the utilities committee. (Aug., 1918, pg. 348).

**Fort William Municipal Ry.**—A press report states that the utilities committee has recommended the Fort William, Ont., City Council to purchase interlocking and derail switches for use on the electric railway lines at an estimated cost of \$1,900. (Aug., pg. 449).

**Levis County Ry.**—A press report states that the Levis, Que., City Council has asked the company to place its tracks in the center of Begin Ave. (June, pg. 324).

**London St. Ry.**—The City Engineer reported to the London, Ont., City Council,

Sept. 30, that the company had not done any paving work on its track during this year, notwithstanding that it undertook to do \$15,000 worth on specifically named streets this year, in consideration of being given the right to charge increased fares. In reference to paving on Richmond and Oxford Sts., the company asked the city to do the work and charge it against the company. It is said that the city will ask the company to do the paving on Rectory St. immediately. (Feb., pg. 88).

**Niagara Falls Park and River Ry.**—We are officially advised in connection with the readjustment and relocation of tracks at Chippawa and Queenston, Ont., respectively, that these changes have and will be made to facilitate the operation of the Hydro Electric Power Commission of Ontario's water power development. The change at Chippawa was made to facilitate dredging by the commission in that locality, and the relocation of the tracks at Queenston to be made provides for tracks to the commission's new hydraulic plant. A construction railway will be built, 2¼ miles long, connecting the Michigan Central Rd., through Queenston, with the power house site. Running rights have been granted to the commission over a portion of the company's line, and a section of the line will be relocated. The tracks will be used jointly by the company and the commission. The work at Chippawa consists merely of shifting the double track line a little further back from the creek than at present, in fact the plan shows that the new outside track will run for the greater part of the distance to be shifted on the line of the present inside track. The change at Queenston is a much larger piece of work. It includes the abandonment of the present track from the corner of Queen and Dumfries Sts., along Dumfries St., across Princess and Front Sts., and round the curve to plot F., and the replacing of the same by a line along Queen St. from the corner of Dumfries St., to the River Road, thence curving round to plot F. This piece of line is to be built by the commission for the company and the commission will build for its own purposes a line to connect with the company's track near plot F., and another line starting from the company's tracks, just below River Road.

**The Nova Scotia Tramways and Power Co.**, is, we are officially advised, undertaking a rather large rebuilding programme in Halifax, N.S., to prepare for extensive street paving. The work is being started this year and will be completed during 1920. The company's work consists of relaying 26,100 ft. of track of which 16,600 ft. is double track, and 9,500 ft. single track. The track to be relaid is all on unpaved streets, and is at present laid on a thin layer of gravel ballast. The new track will consist of a 60 lb. 6 in. rail, laid on a 6 in. concrete base with scoria block paving.

Only one piece of new line is contemplated, viz.: 3,000 ft. of double track on Cogswell St., between Gothingen St. and Windsor St., to provide a short route from the west end of the city into the business district.

**Ottawa Electric Ry.**—A press report states that the Ottawa City Council proposes to have plans prepared for making a number of extensions to the electric

railway lines in the city, in preparation for the taking over of the lines when the company's franchise expires in 1923.

**Regina Municipal Ry.**—At a meeting of the special railway committee of the Regina, Sask., City Council, Oct. 13, the question of future extensions of the municipal railway was discussed. Commissioner Thornton is reported to have stated that a line, as originally planned, along Victoria Ave., east of Broad St., will ultimately be built, but that it may be two or three years before any construction will be done on it. He is also reported to have said that the project of constructing a line along the Boulevard has been abandoned; that the rails for this extension are in stock, but that it will be some time before any construction work will be done. (Nov., 1918, pg. 505).

**Sherbrooke Ry. & Power Co.**, under a new agreement, entered into between the company and the City of Sherbrooke, Que., the company is to extend its railway on the following streets: starting from Aberdeen St., along Alexander, Galt, Belvedere, Short and Drummond Sts., to Pacific St. This extension of 4,800 ft. to be commenced immediately, and put into operation within six months. The company is also making such additional extensions as may be agreed upon from time to time between it and the city. The company is to double track its line from Strathcona Square along Wellington St. to King St., and for a distance of, at least, 200 ft. east on King St., a total of 1,700 ft.

**Toronto Civic Ry.**—The Toronto City Council has passed a bylaw providing for the extension of its Bloor St. line to Runnymede Rd., in Ward 7, at an estimated cost of \$160,000.

It was reported Oct. 2, that plans for the construction of the Mount Pleasant car line had been approved by the Ontario Railway and Municipal Board. It subsequently transpired that the plans had been sent on by the Board of Control without having been approved by the city council, and that the approval of the O.R. and M. Board had been withdrawn owing to objections having been raised by the Metropolitan Ry. The hearing of the application for the approval of the plans, which show a crossing of the Metropolitan Ry. at Yonge St., and St. Clair Ave., was fixed for Oct. 27.

**Toronto Ry.**—The Ontario Railway and Municipal Board is reported to have ordered the Toronto Ry. to start building the Pape Ave. line by April 15, 1920, and to complete it by July 15.

**What Is Reasonable Air Space for Passengers**—Holding the ordinance requiring 30 cu. ft. of air space for each passenger in a closed street car "not legally unreasonable," a Detroit judge has fined the Detroit United Ry. \$250 in a test case. Passed as a public health measure in 1916, the ordinance has never been enforced. D.U.R. attorneys contended that the ordinance was "legally unreasonable," and in support of this contention summoned witnesses from Cleveland to testify that a plan to enforce a similar measure there was halted by an angry public before its enforcement was a day old.

The Hull Electric Co. is, we are officially advised, going to add two 800 k.v.a. transformers, and switching equipment to its substation in Hull, Que.

## Recommendations for Taking Over the Toronto Railway by the City.

The Toronto Transportation Commission reported to the city council recently the following recommendations prepared by a subcommittee, consisting of Thos. Bradshaw, Finance Commissioner; R. C. Harris, Works Commissioner, and E. L. Cousins, General Manager and Chief Engineer, Toronto Harbor Commission:—

1. That a commission of six members be appointed and constituted for and on behalf of the City of Toronto, for the following purposes, viz.:—(a) To take over the Toronto St. Ry. system, in accordance with the terms and conditions of the agreement between the city and the Toronto Ry. Co. in that behalf. (b) To take over the civic car lines and such properties as have been acquired in connection therewith. (c) To deal generally with all matters relating to local transportation within the city. (d) To locate and construct such street railway lines prior to and after Sept. 1, 1921, as will, in conjunction with the existing street railway lines, provide an adequate system of street railway transportation. (e) To provide adequate modern plant, equipment and other facilities, and to acquire all necessary property therefor. (f) To take charge of, administer and operate transportation facilities now owned or operated, or which may be acquired, by the municipality; to regulate and control all matters relating thereto; to make rules and regulations and enforce same, concerning matters within its powers, and to generally do and perform everything whatsoever necessary to fully and effectively accomplish the purposes for which it is created.

2. That the underlying principle in the administration and operation of the transportation system, shall be the provision of an adequate and efficient service, and that only such rates of fares shall be charged as will secure this, and will, at the same time, make the system self-sustaining, including the maintenance of the property in good condition, and due provision for renewals, depreciation, and debt charges.

3. (a) That such commission be known as the Toronto Transportation Commission, the members thereof to act without salary, or other emoluments.

(b) The commission to be composed of six representatives, as follows:—1. One from the Toronto Board of Trade. 2. One from labor. 3. One from the Canadian Manufacturers' Association, Toronto Branch. 4. One from the Toronto Electric Commissioners. 5. The mayor of the city. 6. The Commissioner of Finance for the city. Representatives numbered 1 to 4 to be severally nominated by the respective bodies named, and appointed only by a two-thirds vote of the city council; the mayor and the Commissioner of Finance to act by virtue of their offices.

(c) The first four commissioners appointed shall hold office as follows:—In the first instance, all for a continuous period of three years, at the expiration of which time the first named representative shall retire, and at the expiration of each year thereafter, the other representatives shall retire, in the order named in sub-section 3 (b) hereof. The mayor and the Commissioner of Finance for the city to act during tenure of office.

(d) Upon the retirement of a member as set out in sub-sec. 3 (c), the city council

to appoint upon nomination for four years, a representative from the body or organization from which the retiring member had been selected, and in the manner set out in sub-sec. 3 (b).

(e) Any retiring member, upon re-nomination, to be eligible for reappointment by council.

(f) Any member resigning, dying, or failing or being unable to attend to his duties as commissioner, to be succeeded for the balance of his term, by another member nominated and appointed in the same manner as was the outgoing member.

4. That the city be empowered, upon the requisition of the commission, and the passing of the necessary bylaw, to obtain loans for and on behalf of the commission, through the issue of consolidated loan debentures to the extent necessary to give effect to the commission's requirements and that such loans shall not operate in reduction of the city's borrowing powers.

5. That immediately after the close of each calendar year, the commission shall prepare, report to council, and publish, a complete audited and certified financial statement of its affairs, including revenue and expense account, balance sheet and surplus statement, to be accompanied by a general report of its operation during the year.

All the books, documents, transactions, etc., of the commission shall be at all times open for inspection by the city's Audit Department.

6. That the Corporation Counsel, Major G. R. Geary, K.C., in association with W. N. Tilley, K.C., and A. C. McMaster, K.C., who have been retained by the city in connection with all matters relating to the acquisition of the Toronto Ry., be directed to forthwith prepare the requisite application for legislation to effect the intent of this report, including any provisions they jointly deem necessary, and to submit same for the approval of the city council at the earliest date possible.

7. That the city make application to the Ontario Legislature for the repeal of Sec. 4 of chap. 98, 4 Geo. V., which authorizes the corporation to pass bylaws appointing a body to be known as the Toronto Transportation Commission, and that anything in any act of the Ontario Legislature, inconsistent with the provisions or intent of the application for legislation provided for in this report, shall not apply to the City of Toronto.

8. That the draft legislation, as approved by council, be placed before the qualified ratepayers on Jan. 1, 1920, and that they be requested to vote upon the question: "Are you in favor of a Toronto Transportation Commission, substantially as set forth in the application for legislation to the Ontario Legislature as passed by the city council on the ..... day of ..... 1919?"

9. That upon the passage of the required legislation, the commission be forthwith appointed and constituted.

10. That so soon as the commission deems wise, the city council serve the Toronto Ry. Co. with notice of its intent to take over the railway according to the terms of the agreement between the city and company. That in any event the council serve such notice before Sept. 1, 1920, in order to preserve its rights.

## Electric Railway Employes' Wages, Working Conditions, Etc.

**British Columbia Electric Ry.**—A board of Conciliation, consisting of H. A. Stone, Chairman, T. W. Fletcher, representing the company, and T. J. Coughlan, representing the men, was appointed recently to investigate wages and working conditions of B.C.E.R. employes, following a demand by the men for increased wages. The agreement under which the men were working was signed July 10, 1918, and the rates of wages and conditions of employment named therein were to continue in force until changed by the parties thereto.

**Guelph Radial Ry.**—The report of the Board of Conciliation, composed of Judge C. G. Snider, Hamilton, Ont., Chairman; H. Mahoney, Guelph, representing the company, and T. Hall, Guelph, representing the men, which considered the employes' application for increased wages and changes in improved working conditions, was made public Sept. 30. The board recommended that the line be operated in future on the no-turn system, 9 hours to constitute a days work, to be served within 12 consecutive hours, thus giving a 54 4hour week, instead of the present 67 to 70 hour week. The wage scale recommended was as follows: First year, 38c; second year, 39c; third year and after, 41c. The old rates are reported to have averaged 32c. Time and a half to be paid for overtime, but not when replacing a sick man. The award was accepted by the city council, Oct. 7, and also by the men. It is estimated that in order to carry the new agreement into effect the number of employes will have to be increased from 18 to 22. The Conciliation Board also recommended that in order to provide funds to meet increased wages, a straight 5c fare be charged for all persons except children under 10, and that they be given half fare.

**Dominion Power & Transmission Co.**—Although the Hamilton St. Ry.'s wages agreement with conductors and motormen does not expire until April 1, 1920, the men asked recently for an advance in wages, and subsequently applied for a board of conciliation. The company then agreed to give an advance of 4c an hour, which was accepted. The following are the new rates, per hour, also those on the company's interurban lines:

	City	Interurban
1st 6 months.....	34c	30c
2nd 6 months .....	34c	35c
1st year .....	34c	.....
2nd year .....	38c	39c
3rd year and after.....	41c	45c

**Winnipeg Electric Ry.**—The board of conciliation, which submitted recently, with Chief Justice Mathers as Chairman, the following wages per hour, for conductors and motormen: 1st 6 months, 46c; 2nd 6 months, 49c; 2nd year, 52c; 3rd year and after, 55c. The award was accepted by the men, but the company stated it could not accept it until an increase in passenger fares was permanently settled.

The Winnipeg Electric Ry. is contemplating changing the routing of several of its important street car lines, to give improved service, by eliminating much of the traffic congestion which exists during the rush hour period, particularly at the corner of Main St. and Portage Ave., which has always been a congested location, not only for pedestrians, but also for street cars and other vehicles.

# Marine Department

## Canadian Government Merchant Marine, Ltd., Shipbuilding, Operation, Etc.

**Orders for Steamships**—As stated in Canadian Railway and Marine World for October, the Marine Department was in negotiation with Canadian Vickers Ltd., Montreal, for 4 more steel cargo steamships of approximately 8,100 tons each, and with the Midland Shipbuilding Co., Midland, Ont., for one steel cargo steamship, but up to the time of writing, Oct. 22, no official announcement had been made as to the closing of any additional contracts. There appears, however, to be no doubt that 4 more steamships of approximately 8,100 d.w. tons each are being ordered from Canadian Vickers Ltd., and that the Midland Shipbuilding Co. will be given an order for one ship, the type and tonnage of which do not appear to have been decided. Negotiations are said to be in progress with the Nova Scotia Steel & Coal Co., New Glasgow, N.S., and with Wallace Shipyards Ltd., North Vancouver, B.C., for additional ships.

**Keels Laid**—Since Canadian Railway and Marine World for October was pub-

ment contract 30; builder's yard no. 2; Harbour Marine Co., Victoria, B.C.; approximately 8,100 d.w. tons.

Canadian Runner; Marine Department contract 32; builder's yard no. 43; Port Arthur Shipbuilding Co.; Port Arthur, Ont.; approximately 4,300 d.w. tons.

Canadian Carrier; Marine Department contract 33; builder's yard no. 44; Port Arthur Shipbuilding Co., Port Arthur, Ont.; approximately 4,300 d.w. tons.

Canadian Cruiser; Marine Department contract 38; builder's yard no. 3; Halifax Shipyards Ltd., Halifax, N.S.; approximately 10,500 d.w. tons.

Canadian Constructor; Marine Department contract 39; builder's yard no. 4; Halifax Shipyards Ltd., Halifax, N.S.; approximately 10,500 d.w. tons.

Canadian Reaper; Marine Department contract 42; builder's yard no. 1; Prince Rupert Drydock & Engineering Co., Prince Rupert, B.C.; approximately 8,100 d.w. tons.

Canadian Thrasher; Marine Department contract 43; builder's yard no. 2;

S.s. Canadian Aviator; Marine Department contract 6; builder's yard no. 101; approximately 5,100 d.w. tons; Wallace Shipyards Ltd., North Vancouver, B.C.; Oct. 9.

S.s. Canadian Navigator, Marine Department contract 23; builder's yard no. 73; approximately 4,300 d.w. tons; Canadian Vickers Ltd., Montreal, Oct. 18.

**Delivery of steamships**—In addition to the steamships mentioned in Canadian Railway and Marine World previously, the following has been delivered to the Marine Department, and was transferred to Canadian Government Merchant Marine Ltd., for operation, on the date mentioned.

Sept. 24; s.s. Canadian Miller; Marine Department contract 26; builder's yard no. 70; approximately 8,100 d.w. tons; Canadian Vickers Ltd., Montreal, builders. She was loaded at Montreal, with a general cargo, and sailed Sept. 29 for Liverpool.

**Deadweights of Steamships**—Canadian Railway and Marine World for September contained a table showing the approximate d.w. tons provided for in contracts for 8 steel cargo steamships, ordered by the Marine Department for Canadian Government Merchant Marine Ltd., and the finally determined weights for which the builders are paid at the price per long d.w. ton stated in the contract. The following additional information has been received:

	Approximate.	Determined.
Canadian Seigneur.....	8,100	8,391

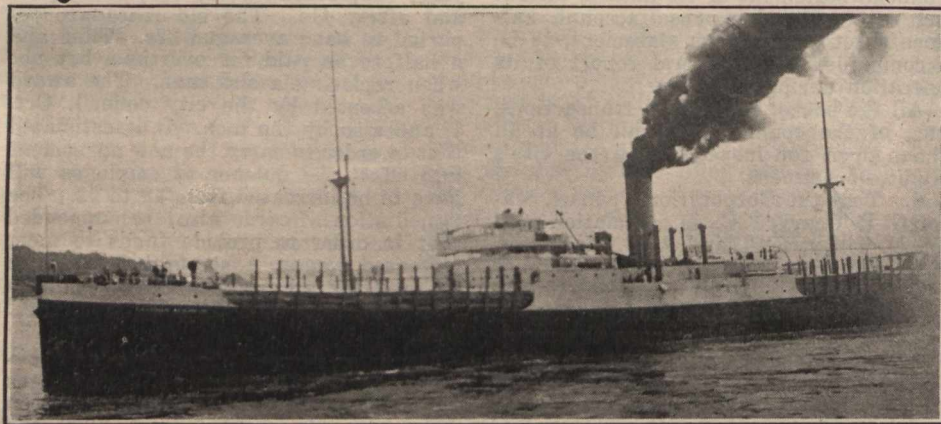
**Insurance on Steamships**—The Minister of Railways, in answer to questions, stated in the House of Commons, Oct. 9, that 11 steel cargo steamships were being operated by Canadian Government Merchant Marine Ltd., and gave their names, d.w. tonnages and cost, full particulars of which appear in the table on page 616 of this issue. The insurance carried on the ships is \$9,115,907, as follows: Canadian companies, \$139,091; British companies, \$6,348,691; United States companies, \$2,628,125.

**Canadian Vickers Ltd.**, Montreal, launched the s.s. Canadian Navigator; Marine Department contract 23; builder's yard no. 73; approximately 4,300 d.w. tons; Oct. 18. The christening ceremony was performed by Mrs. C. F. M. Duguid, wife of the Naval Constructor, Marine Department. The company expects to launch two more steel cargo steamships as follows:

S.s. Canadian Spinner, Marine Department contract 27; builder's yard no. 71; approximately 8,100 d.w. tons, in November.

S.s. Canadian Planter; Marine Department contract 28; builder's yard no. 72; approximately 8,100 d.w. tons in November.

**Davie Shipbuilding & Repairing Co.**, Lauzon, Que., which has contracts from the Marine Department for 2 steel cargo steamships, approximately 5,100 d.w. tons each, for Canadian Government Merchant Marine Ltd., the keels for which were laid Mar. 11 and 28, respectively, launched the s.s. Canadian Trapper, Marine Department contract 17; builder's yard no. 459; Oct. 9. The christening was performed by Mrs. Chas.



Canadian Government Merchant Marine Ltd., Steel Cargo Steamship, Canadian Seigneur, approximately 8,100 d.w. tons, proceeding down the St. Lawrence River at Montreal, loaded.

lished, we have been advised of the laying of the following keels for steel cargo steamships for Canadian Government Merchant Marine Ltd.:

S.s. Canadian Reaper; Marine Department contract 42; builder's yard no. 1; approximately 8,100 d.w. tons; Prince Rupert Drydock & Engineering Co., Prince Rupert, B.C.; Sept. 27.

S.s. Canadian Cruiser, Marine Department contract 38; builder's yard no. 3; approximately 10,500 d.w. tons; Halifax Shipyards Limited, Halifax, N.S., Oct. 2, 1919.

S.s. Canadian Constructor, Marine Department contract 39; builder's yard no. 4; approximately 10,500 d.w. tons; Halifax Shipyards Ltd., Halifax, N.S., Oct. 6, 1919.

**Names of Steamships**—Since the last list of names chosen by the Marine Department for steel cargo steamships for Canadian Government Merchant Marine Ltd., was published in Canadian Railway and Marine World, we have been advised of the following additional ones:

Canadian Armourer; Marine Department contract 29; builder's yard no. 1; Harbour Marine Co., Victoria, B.C.; approximately 8,100 d.w. tons.

Canadian Composer; Marine Depart-

ment contract 46; builder's yard no. 65; Collingwood Shipbuilding Co., Collingwood, Ont.; approximately 3,750 d.w. tons.

Canadian Observer; Marine Department contract 47; builder's yard no. 66; Collingwood Shipbuilding Co., Collingwood, Ont.; approximately 3,750 d.w. tons.

**Launchings of Steamships**—Since Canadian Railway and Marine World for October was published, we have been advised of the following launchings:—

S.s. Canadian Sealer; Marine Department contract 40; builder's yard no. 5; approximately 2,800 d.w. tons; Nova Scotia Steel & Coal Co., New Glasgow, N.S.; Oct. 8.

S.s. Canadian Trapper; Marine Department contract 17; builder's yard no. 459; approximately 4,100 d.w. tons; Davie Shipbuilding & Repairing Co., Lauzon, Que.; Oct. 9.

S.s. Canadian Sower, Marine Department contract 20a; builder's yard no. 210, approximately 3,400 d.w. tons, Port Arthur Shipbuilding Co., Port Arthur, Ont., Oct. 9.



Duguid, wife of the Naval Constructor, Marine Department. The ship is of the single deck type with poop bridge and forecabin, her dimensions being: length, overall, 344 ft.; length, b.p., 331 ft.; breadth, moulded, 40½ ft.; depth, moulded, 25½ ft.; draft, loaded, 21 ft. 8 in. She will be equipped with triple expansion engines with cylinders 25, 41 and 68 in. diam. by 45 in. stroke, supplied with steam by 3 single ended boilers, each 14 x 11½ ft. at 180 lb. for a speed of 11 knots an hour. It is announced that the interior work and the placing of the propelling and other machinery is to be done by Tidewater Shipbuilders Ltd., Three Rivers, Que. It is expected that the Canadian Trapper will be completed and ready for sea by the end of November. A full description of this type of ship was published in Canadian Railway and Marine World for Oct., 1918.

**Halifax Shipyards Ltd.,** Halifax, N.S., has contracts from the Marine Department for 2 steel cargo steamships, approximately 8,100 d.w. tons each, and for 2 approximately 10,500 d.w. tons each, for Canadian Government Merchant Marine Ltd. The keels for the 2 of 8,100 tons each were laid Feb. 24, and Mar. 15, respectively, and the keels for the 2 of 10,500 tons each were laid as follows: s.s. Canadian Cruiser; Marine Department contract 38; builder's yard no. 3; Oct. 2; s.s. Canadian Constructor; Marine Department contract 39; builder's yard no. 3; Oct. 6.

**Harbour Marine Co.,** Victoria, B.C.—Steady progress is reported on the 2 approximately 8,100 d.w. ton steel cargo steamships under construction for Canadian Government Merchant Marine Ltd. Nearly all the floor plates are in place and a start has been made in the erection of the frames. Work is proceeding simultaneously on both ships.

**Nova Scotia Steel & Coal Co.,** New Glasgow, N.S.; which has contracts from the Marine Department for 2 steel cargo steamships, approximately 2,800 d.w. tons each, for Canadian Government Merchant Marine Ltd., the keels for which were laid Mar. 27 and 31, respectively, launched the s.s. Canadian Sealer, Marine Department contract 40; builder's yard no. 5, Oct. 8.

**Port Arthur Shipbuilding Co.,** Port Arthur, Ont., launched the s.s. Canadian Sower, Marine Department contract 20a; builder's yard no. 42; approximately 3,400 d.w. tons; Oct. 9; Mrs. Wodehouse, wife of Lieut.-Col. Wodehouse, C.A.M.C., and daughter of F. H. Keefer, M.P., for Port Arthur and Kenora, officiating at the christening. The Canadian Sower is the fourth ship built by the company for Canadian Government Merchant Marine Ltd. this year, and will be delivered before the close of navigation.

The s.s. Canadian Adventurer, Marine Department contract 19a, builder's yard no. 41, approximately 3,400 d.w. tons, launched Sept. 8, was completed and delivered Oct.

During the winter the company will proceed with the building of the s.s. Canadian Runner, and the s.s. Canadian Carrier; Marine Department contracts 32 and 33; builder's yard nos. 43 and 44; each approximately 4,300 d.w. tons; the keels for which were laid Aug. 29. They will be launched early next spring.

**Prince Rupert Drydock & Engineering Co.,** Prince Rupert, B.C., laid the keel for steel cargo steamship, Canadian Reaper, Marine Department contract 42; builder's yard no. 1; approximately 8,100 d.w. tons on Sept. 27, and expected to

lay the keel for Marine Department contract 43; builder's yard no. 2; also approximately 8,100 d.w. tons, towards the end of October.

**Wallace Shipyards Ltd.,** North Vancouver, B.C., received from the Marine Department contracts for 4 steel cargo steamships, two of approximately 4,300 d.w. tons each, and 2 of approximately 5,100 d.w. tons each. The 2 of 4,300 tons each, s.s. Canadian Volunteer and s.s. Canadian Trooper, were launched Apr. 5 and May 31, respectively. The first of the 5,100 ton ones, s.s. Canadian Aviator; Marine Department contract 6; builder's yard no. 101; was launched Oct. 9. The second 5,100 ton one, s.s. Canadian Raider, is expected to be launched about Nov. 15.

The s.s. Canadian Aviator was sent into the water practically fully equipped with machinery and fittings. The main engines were built by Wallace Shipyards Ltd., the boilers by Vulcan Iron Works, and the winches and smoke stacks by North Shore Iron Works. The christening ceremony was performed by Mrs. Stevens, wife of H. H. Stevens, M.P. for Vancouver Center. This ship is the third launched by the company for Canadian Government Merchant Marine, and the first of two having an approximate d.w. tonnage of 5,100. The s.s. Canadian Aviator has the following dimensions: length, overall, 344 ft.; length, b.p., 331 ft.; breadth, moulded, 46½ ft.; depth, moulded, 25½ ft.; draft, loaded, 21 ft. 8 in. Cargo will be handled by 11 steam winches, operated by steam derricks of 5 tons capacity, supported from steel posts instead of from the masts. The propelling machinery consists of triple expansion engines with cylinders 25, 41 and 68 in. diam. by 45 in. stroke, 2,500 i.h.p., supplied with steam by 3 single ended boilers, each 14 x 11½ ft. at 180 lb. for sea speed of 11 knots an hour loaded. A full description of the 5,100 type of ships was given in Canadian Railway and Marine World for Oct., 1918.

**The Kingsley Navigation Co.'s** s.s. E. D. Kingsley, which has been built at Fort William, Ont., by Canadian Car and Foundry Co., was expected to be ready for delivery to her owners by the end of October. She will load grain at Fort William for Montreal, and there take on a cargo of flour for St. John, N.B., where she will take on a general cargo for New York. No definite arrangements had, at the time of our advice, been made as to a cargo from New York, but it was hoped to obtain a direct cargo for Vancouver, B.C. The head office of the owning company is at Vancouver, J. F. Tener being Managing Director, and P. J. Maw, Secretary-Treasurer. The s.s. E. D. Kingsley will be operated in the coast trade between Puget Sound and northern ports, which occasional trips to California and South American ports. Capt. M. Uldall has been appointed master, and J. F. Price, chief engineer. The company also owns and operates the s.s. Queen City between Puget Sound and northern ports.

**Esquimalt Drydocks—**A Victoria, B.C., press dispatch of Oct. 16 says that, following negotiations which have been in progress for several weeks, Skinner Cove, Esquimalt, has been selected as the site of a drydock to be built by the Dominion Government. As stated previously in Canadian Railway and Marine World, the government in 1914 acquired a site at Langs Cove, Esquimalt, for the purpose of erecting a drydock of the first class. The existing government drydock

at Esquimalt has the following dimensions: Length on blocks, 430 ft.; length, over all, 450 ft.; width of gate, 65 ft.; width at top, 90 ft.; depth over sill, 26½ ft.

The following are comparative details of the seven different types of steamships being built for Canadian Government Merchant Marine Ltd.:

	2,800 ton.	3,400 ton.	3,750 ton.	4,300 ton.	5,100 ton.	8,100 ton.	10,500 ton
Length, overall.....	280 ft.	260 ft.	260½ ft.	333 ft.	344 ft.	413 ft.	445 ft.
Length, bet. perpendiculars.....	270 ft.	251 ft.	251 ft.	320 ft.	331 ft.	413 ft.	430 ft.
Breadth, moulded.....	38 ft.	43½ ft.	43½ ft.	44 ft.	46½ ft.	52 ft.	56 ft.
Depth, moulded.....	20½ ft.	20 ft.	26 ft.	25 ft.	25½ ft.	31 ft.	38 ft.
Draft, loaded.....	17½ ft.	20 ft.	22 ft.	21 ft.	21 ft.	25 ft.	29 ft.
Engines—Type.....	S.d., p.b. & f.c's'le	S.d., p.b. & f.c's'le	Laake, s.d., p.b. & f.c's'le	S.d., p.b. & f.c's'le	S.d., p.b. & f.c's'le	2d, p.b. & f.c's'le	3d, p. & f.c's'le
Cylinders, diam.....	Tri-compound	Triple expansion	Triple expansion	Triple expansion	Triple expansion	Triple expansion	Triple expansion
Stroke.....	17½ x 28¼ x 47 ins.	20½ x 34 x 56 ins.	18 x 30 x 50 ins.	25 x 41 x 67 ins.	25 x 41 x 68 ins.	27 x 44 x 73 ins.	29½ x 50 x 80 ins.
Ind. h.p.....	33 ins.	40 ins.	36 ins.	45 ins.	45 ins.	48 ins.	54 ins.
Boilers—Type.....	Single ended	Single ended	Single ended	Single ended	Single ended	Single ended.	Single ended
No.....	2	1	2	2	2	3	4
Diam. and length.....	12½ x 10½ ft.	15 x 11 ft.	14 x 10½ ft.	15½ x 11½ ft.	14 x 11½ ft.	15½ x 11½ ft.	15½ x 11½ ft.
Working pressure.....	185 lbs.	190 lbs.	180 lbs.	180 lbs.	180 lbs.	180 lbs.	180 lbs.
Furnaces—No.....	2	6	6	6	9	9	12
Grate surface.....	80 sq. ft.	185 sq. ft.	100 sq. ft.	132 sq. ft.	156 sq. ft.	198 sq. ft.	270
Heating surface.....	3,000 sq. ft.	4,670 sq. ft.	3,900 sq. ft.	5,162 sq. ft.	7,743 sq. ft.	10,500 sq. ft.	10,500 sq. ft.
Speed.....	8½ knots	9 knots	9 knots	11 knots	11 knots	11 knots	12 knots
Classification.....	Lloyd's	Lloyd's	Brit. Corp.	Lloyd's	Lloyd's	Lloyd's	Lloyd's

## Orders for Steel Cargo Steamships for Canadian Government Merchant Marine Ltd.

The following is a complete list of steel cargo steamships which the Dominion Marine Department has been authorized, by order in council, to place orders for, and which orders are to be carried out. The figures given in the column headed "Long tons d.w." and which are preceded by an asterisk (\*) show the total deadweight capacities as determined after the ships have been completed. The other figures in that column, not preceded by an asterisk, show the approximate total deadweights, subject to modification as they may vary above or below the figures given and as may be ascertained after the ships are completed, and of course, the total prices will vary accordingly.

The following contractions are used in the column giving the type of the vessels to be built:—s.d., single deck; 2.d., two deck; 3.d., three deck; lake, lake type; p., poop; b., bridge; f'c's'le, forecastle.

Contract	Contract date	Name	Builder	Yard no.	Long tons d.w.	Price per ton d.w.	Total price	Type	Classification	Speed, knots	Keel laid	Launched	Delivered.
1	Mar. 4, 1918	Canadian Voyageur	Canadian Vickers Ltd., Montreal	66	*4,575	\$207.	\$ 947,025	S.d., p., b. and f'c's'le.....	Lloyd's	11	June 11, 1918	Nov. 23, 1918	Feb. 22, 1919
2	May 22, 1918	Canadian Pioneer	" "	67	*8,408	180.	1,513,440	2.d., p., b. and f'c's'le.....	"	11	July 17, 1918	Dec. 3, 1918	May 9, 1919
3	May 18, 1918	Canadian Warrior	Collingwood Shipbuilding Co., Collingwood, Ont.	61	*3,995	205.	818,975	Lake, s.d., p., b. and f'c's'le	Bri. Corp.	9	Not stated	Dec. 21, 1918	Apr. 26, 1919
4	Mar. 15, 1918	Canadian Volunteer	Wallace Shipyards Ltd., North Vancouver, B.C.	100	*4,530	207.	937,710	S.d., p., b. and f'c's'le.....	Lloyd's	11	Oct. 1, 1918	Apr. 5, 1919	June 19, 1919
5	Nov. 25, 1918	Canadian Trooper	" "	106	4,300	217.	933,100	S.d., p., b. and f'c's'le.....	"	11	Nov. 15, 1918	May 31, 1919	Aug. 7, 1919
6	Nov. 25, 1918	Canadian Aviator	" "	101	5,100	210.	1,071,000	S.d., p., b. and f'c's'le.....	"	11	Apr. 5, 1919	Oct. 9, 1919	
7	Nov. 25, 1918	Canadian Raider	" "	102	5,100	210.	1,071,000	S.d., p., b. and f'c's'le.....	"	11	May 31, 1919		
10	July 5, 1918	Canadian Recruit	Collingwood Shipbuilding Co., Collingwood, Ont.	62	*3,964	205.	812,620	Lake, s.d., p., b. and f'c's'le	Bri. Corp.	9	June 3, 1918	May 3, 1919	June 7, 1919
11	Oct. 17, 1918	Canadian Signaller	" "	63	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	"	9	Jan. 16, 1919	June 28, 1919	Aug. 30, 1919
12	Oct. 17, 1918	Canadian Gunnar	" "	64	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	"	9	Feb. 10, 1919		
13	Aug. 9, 1918	Canadian Settler	Tidewater Shipbuilders Ltd., Three Rivers, Que.	5	5,100	200.	1,020,000	S.d., p., b. and f'c's'le.....	Lloyd's	11	Jan. 8, 1919	Sept. 20, 1919	
14	Aug. 9, 1918	Canadian Rancher	" "	6	5,100	200.	1,020,000	S.d., p., b. and f'c's'le.....	"	11	Jan. 10, 1919		
15	Jan. 24, 1919	Canadian Fisher	" "	7	5,100	200.	1,020,000	S.d., p., b. and f'c's'le.....	"	11	Sept. 20, 1919		
16	Jan. 24, 1919	Canadian Forester	" "	8	5,100	200.	1,020,000	S.d., p., b. and f'c's'le.....	"	11			
17	Sept. 4, 1918	Canadian Trapper	Davie Shipbuilding & Repairing Co., Lauzon, Que.	459	5,100	200.	1,020,000	S.d., p., b. and f'c's'le.....	"	11	Mar. 11, 1919	Oct. 9, 1919	
18	Sept. 4, 1918	Canadian Hunter	" "	460	5,100	200.	1,020,000	S.d., p., b. and f'c's'le.....	"	11	Mar. 28, 1919		
19	Sept. 4, 1918	Canadian Trader	Port Arthur Shipbuilding Co., Port Arthur, Ont.	39	*3,341	205.	684,905	Lake, s.d., p., b. and f'c's'le	"	9	Dec. 9, 1918	May 5, 1919	July 18, 1919
19a	Mar. 1, 1919	Canadian Adventurer	" "	41	3,400	210.	714,000	Lake, s.d., p., b. and f'c's'le	"	9	Mar. 31, 1919	Sept. 8, 1919	
20	Sept. 4, 1918	Canadian Sailor	" "	40	*3,357	205.	688,185	Lake, s.d., p., b. and f'c's'le	"	9	Dec. 10, 1918	May 31, 1919	Aug. 7, 1919
20a	Mar. 1, 1919	Canadian Sower	" "	42	3,400	210.	714,000	Lake, s.d., p., b. and f'c's'le	"	9	Mar. 31, 1919	Oct. 9, 1919	
21	Sept. 13, 1918	Canadian Mariner	Halifax Shipyards, Ltd., Halifax, N.S.	1	8,100	195.	1,579,500	2.d., p., b. and f'c's'le.....	"	10	Feb. 24, 1919		
22	Sept. 13, 1918	Canadian Explorer	" "	2	8,100	195.	1,579,500	2.d., p., b. and f'c's'le.....	"	10	Mar. 15, 1919		
23	Oct. 11, 1918	Canadian Navigator	Canadian Vickers Ltd., Montreal...	73	4,800	215.	924,500	S.d., p., b. and f'c's'le.....	"	11	Jan. 22, 1919	Oct. 18, 1919	
24	Oct. 11, 1918	Canadian Ranger	" "	68	*8,332	188.	1,575,816	2.d., p., b. and f'c's'le.....	"	11	Aug. 26, 1918	Apr. 19, 1919	May 23, 1919
25	Oct. 11, 1918	Canadian Seigneur	" "	69	8,400	188.	1,579,200	2.d., p., b. and f'c's'le.....	"	11	Nov. 30, 1918	May 7, 1919	Aug. 14, 1919
26	Oct. 11, 1918	Canadian Miller	" "	70	8,100	188.	1,522,800	2.d., p., b. and f'c's'le.....	"	11	Dec. 2, 1918		
27	Oct. 11, 1918	Canadian Spinner	" "	71	8,100	188.	1,522,800	2.d., p., b. and f'c's'le.....	"	11	Apr. 23, 1919		
28	Oct. 11, 1918	Canadian Planter	" "	72	8,100	188.	1,522,800	2.d., p., b. and f'c's'le.....	"	11	May 10, 1919		
29	Jan. 24, 1919	Canadian Armourer	Harbour Marine Co., Victoria, B.C.	1	8,100	198.	1,603,800	2.d., p., b. and f'c's'le.....	"	11	July 14, 1919		
30	Jan. 24, 1919	Canadian Composer	" "	2	8,100	198.	1,603,800	2.d., p., b. and f'c's'le.....	"	11	Aug. 9, 1919		
31	Dec. 11, 1918	Canadian Beaver	Collingwood Shipbuilding Co., Kingston, Ont.	15	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	Brit. Corp.	9	Apr. 7, 1919		
32	Mar. 1, 1919	Canadian Runner	Port Arthur Shipbuilding Co., Port Arthur, Ont.	43	4,300	215.	935,250	S.d., p., b. and f'c's'le.....	Lloyd's	10½	Aug. 29, 1919		
33	Mar. 1, 1919	Canadian Carrier	" "	44	4,300	215.	935,250	S.d., p., b. and f'c's'le.....	"	10½	Aug. 29, 1919		
34	Nov. 22, 1918	Canadian Importer	J. Coughlan & Sons, Vancouver, B.C.	11	8,100	198.	1,603,800	2.d., p., b. and f'c's'le.....	"	11	Apr. 26, 1919		
35	Nov. 22, 1918	Canadian Exporter	" "	12	8,100	198.	1,603,800	2.d., p., b. and f'c's'le.....	"	11	May 3, 1919		
36	Nov. 22, 1918	Canadian Inventor	" "	13	8,100	198.	1,603,800	2.d., p., b. and f'c's'le.....	"	11	July 24, 1919		
37	Nov. 22, 1918	Canadian Prospector	" "	14	8,100	198.	1,603,800	2.d., p., b. and f'c's'le.....	"	11			
38	Dec. 10, 1918	Canadian Cruiser	Halifax Shipyards Ltd., Halifax, N.S.	3	10,500	197½	2,073,750	3.d., p., and f'c's'le.....	"	12	Oct. 2, 1919		
39	Dec. 10, 1918	Canadian Constructor	" "	4	10,500	197½	2,073,750	3.d., p., and f'c's'le.....	"	12	Oct. 6, 1919		
40	Mar. 31, 1919	Canadian Sealer	Nova Scotia Steel & Coal Co., New Glasgow, N.S.	5	2,800	210.	588,000	S.d., p., b. and f'c's'le.....	"	8½	Mar. 27, 1919	Oct. 8, 1919	
41	Mar. 31, 1919	Canadian Miner	" "	6	2,800	210.	588,000	S.d., p., b. and f'c's'le.....	"	8½	Mar. 31, 1919		
42	Feb. 21, 1919	Canadian Reaper	Prince Rupert Dry Dock and Engineering Co., Prince Rupert, B.C.	1	8,100	198.	1,603,800	2.d., p., b. and f'c's'le.....	"	11	Sept. 27, 1919		
43	Feb. 21, 1919	Canadian Thrasher	" "	2	8,100	198.	1,603,800	2.d., p., b. and f'c's'le.....	"	11			
44	Jan. 23, 1919	Canadian Otter	British American Shipbuilding Co., Welland, Ont.	4	4,350	215.	935,250	S.d., p., b. and f'c's'le.....	Brit. Corp.	10	Mar. 29, 1919		
45	Jan. 23, 1919	Canadian Squatter	" "	5	4,350	215.	935,250	S.d., p., b. and f'c's'le.....	"	10	July 14, 1919		
46	Sept. 11, 1919	Canadian Farmer	Collingwood Shipbuilding Co., Collingwood, Ont.	65	3,950	180.	711,000	Lake, s.d., p., b., and f'c's'le	Lloyd's	11			
47	Sept. 11, 1919	Canadian Observer	" "	66	3,950	180.	711,000	Lake, s.d., p., b., and f'c's'le	"	11			
48	Sept. 2, 1919		Dominion Shipbuilding Co., Toronto	10	3,500	180.	630,000	Lake, s.d., p., b. and f'c's'le	"	11			
49	Sept. 2, 1919		" "	11	3,500	180.	630,000	Lake, s.d., p., b. and f'c's'le	"	11			
					280,502		\$55,716,026						

## General Shipbuilding Matters Throughout Canada.

**B. Belliveau & Co.,** Belliveau's Cove, N.S., launched the three-masted schooner *Rosanne Belliveau*, completely rigged and ready for sea, early in October. Her dimensions are: length, overall, 135 ft.; length, over keel, 105 ft.; breadth, 30 ft.; depth, 11 ft.; 281 tons net. She is classed A1 for 12 years in Bureau Veritas and loaded lumber at Belliveau's Cove for the West Indies.

**Canadian Car and Foundry Co.,** Fort William, Ont., launched the 1,500 ton s.s. *E. D. Kingsley*, for Kingsley Navigation Co., Vancouver, B.C., at its Fort William yards, adjacent to the Kaministikwia River, Sept. 16. This ship is of the single deck type, with long poop and forecastle, and steel deckhouse on poop, with wheel house and chart room above. It is built on the transverse system, with the propelling machinery located aft of amidships. There are two cargo hatches in the forward hold, and one in the aft hold, no. 1 extending from the collision bulkhead to the boiler room bulkhead, and no. 2 from the engine room bulk-

on specially constructed trucks, which are shown in the accompanying illustration. The hull is then pulled out of the building by a locomotive, on to a transfer table, allowing the hull to move sideways in either direction to line it up with the double line of tracks running from the transfer table to the river. The hull is then moved toward the river by a locomotive, crossing, on the way, Montreal St., the Grand Trunk Pacific Ry., and the Fort William Municipal Ry. Immediately after crossing these tracks, the incline to the water commences, being about an 8% grade. At this point another locomotive is attached, and the hull then descends to the river by its own weight, and is held in check by a cable attached to the bow. The river bank was excavated to obtain this grade and also deep enough to form a slip in from the river, the railway tracks being laid practically to the river bed to allow the trucks to go right into the water. Immediately the trucks go deep enough into the water, the hull floats off and

over keel, 145½ ft.; breadth, 37½ ft.; depth, 13 ft.; tonnage, 649 gross, 594 net. She is equipped with a 15 h.p. Fairbanks-Morse engine for hoisting purposes, and, if necessary, power can be attached to the ship's pumps. She is classed A-1 for 12 years in Bureau Veritas.

**Fauquier & Porter,** Hantsport, N.S., have discontinued building wooden ships. The yard has been dismantled and the plant disposed of.

**Halifax Shipyards Ltd.,** Halifax, N.S., has on hand for repairs 4 steamships, one being the s.s. *Troja*, which was salvaged recently in the Bay of Fundy, and the second one is the Dominion Government car ferry *Scotia*. The latter is being fitted with a new bow.

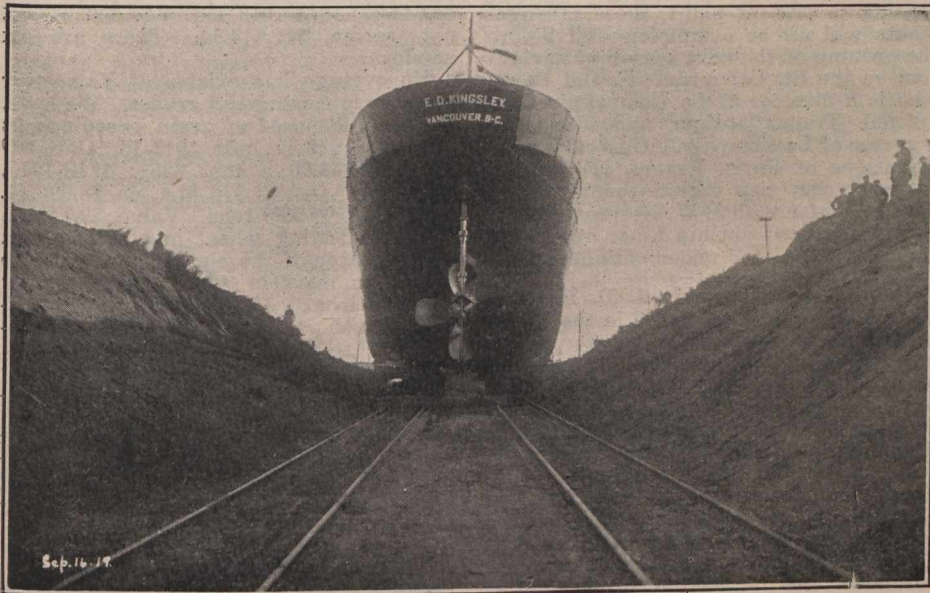
Halifax, N.S., press dispatch, Oct. 21—About 1,200 men are now employed at the Halifax Shipyards, and there is much activity about the entire plant. None of the employes are foreigners, and 34.5% of them are service men, 359 having returned from overseas and 62 being on home service. The payroll for September was \$144,684. The company's shipbuilding operations are now entering an interesting stage. Four keels have been laid, two of them within the last few weeks, and the work is being pushed ahead rapidly.

**J. F. Paige,** General Manager Port Arthur Shipbuilding Co., Port Arthur, Ont., is reported to have resigned to enter the Halifax Shipyards' service.

**National Shipbuilding Co.,** Levis, Que.—The s.s. *Pomone* has been completed by this company and was dispatched to New York recently, to load cargo for Algiers, Tunis and Marseilles. This ship was formerly the Dominion Government dredge *Galveston*, and was purchased by Hutchinson and Dussault, for conversion by the National Shipbuilding Co., into an ocean freight steamship, and eventually sold to Affreteurs, Reunis, Paris, France, which operates the Three Star Line, chiefly in the Mediterranean trade. The reconstruction was done during the winter of 1918-19, and the rebuilt ship was launched 95% completed, and fitted out May 31. The work consisted of the removal of all superstructure, dredging equipment and hoppers, and the construction of a new double bottom, with ballast tanks, cargo holes, with 2 new water tight bulkheads, raising of the forecastle and poop decks by 8 ft., new steel decks, a bridge, deck and deckhouse amidships, with chart room and navigating bridge above, crew's quarters in the forecastle and petty officers' quarters in poop deck house, new masts with 6 cargo booms and all standing and running rigging complete, 3 cargo hatches, deck winches, capstan and other deck auxiliaries, new rudder, rudder stock and quadrant, rearrangement of engine room auxiliaries with steam and water piping and complete electric lighting installation. The ship was put under a series of trials June 21, under the supervision of Bureau Veritas officials. She has the following dimensions: length, b.p., 233 ft.; beam, 39 ft.; depth, moulded, 23½ ft.; tonnage, 3,110 d.w.

**Port Arthur Shipbuilding Co.,** Port Arthur, Ont., **J. F. Paige,** General Manager, is reported to have resigned and to have received an appointment from Halifax Shipyards Ltd., Halifax, N.S.

**Sorel Shipbuilding and Dry Dock Co.**



Launching of Steel Cargo Steamship *E. D. Kingsley*, by Canadian Car & Foundry Co., at Fort William, Ont.

head to the after peak bulkhead. There is a double bottom, 3 ft. deep, extending from the collision bulkhead to the after peak bulkhead, divided by transverse oil and water tight floors into a number of compartments. Following are the chief dimensions:

Length overall .....	209 ft.
Length b.p. ....	200 ft.
Breadth moulded .....	32 ft.
Depth moulded .....	17 ft.

The system adopted in launching vessels built at this yard, is unique. The main erecting shop is approximately 1,000 ft. from the Kaministikwia River, and there is a difference in elevation between the water level and the grade at the plant, of approximately 40 ft. Vessels are built adjacent to the plant, rather than close to the water, and are then conveyed to the water's edge by special means. A special building was erected for the building of hulls, and there are 6 building berths. This building is of steel and concrete construction, and is served with overhead travelling cranes to facilitate the application of steel. After a hull is completed, it is supported on cradles, which are carried

the cradles are hauled in for future use.

**Canadian Vickers, Ltd.,** Montreal—The s.s. *Alsace*, which was launched at this yard, Sept. 27, for French interests, is being fitted out at the company's works and will be completed, and ready for sea before the close of navigation.

**Cholberg Shipbuilding Co.,** Victoria, B.C., which was organized some little time ago to build wooden vessels with auxiliary power, chiefly for Norwegian interests, has issued a prospectus for the re-arrangement of the company on a co-operative basis to cover both shipbuilding and operating, under the name of British Columbia Ship Owners, Ltd. The proposed capital is stated to be \$600,000 in shares of \$100 each, and sailing vessels only, are to be built. The prospectus states that it costs \$240,000 to build and equip each vessel, and that on a cargo of lumber from Victoria to England, at present, freight rates, there would be gross earnings of \$82,500.

**Doucett Shipbuilding Co.,** Meteghan River N.S., launched the tern schooner *Celeste D.*, early in October. Her dimensions are: length, overall, 164 ft.; length,

Ltd., Sorel, Que., creditors have petitioned for a winding up order.

Yarrows Ltd., Victoria, B.C., is reported to have received an order for the construction of a steel ferry steamship of the shallow draft type for operation across the Fraser River, at Mission, B.C. It is stated that the ship will be double ended 90 ft. long, 30 ft. beam, and that on completion the hull will be towed to New Westminster, where two engines with a total of 180 h.p. will be installed.

**Shipbuilding in Canada for British Government.**

The s.s. War Fury was launched by the Midland Shipbuilding Co., at Midland, Ont., Oct. 16, the christening ceremony being performed by Mrs. W. I. Gear, wife of the Director of Steel Shipbuilding, Imperial Munitions Board. This vessel is of the same type as those built by various companies throughout Canada, for the British Government, under orders from the Imperial Munitions Board. She is of steel throughout, with single deck, poop, bridge and fore-castle, and built on the transverse system with inner bottom throughout. Her dimensions are: length, overall, 261 ft.; length, between perpendiculars, 251 ft.; breadth, moulded, 43½ ft.; depth, moulded, 23 ft.; tonnage, 2,240 gross; 3,450 d.w. Cargo will be handled by 4 steel derrick posts, fitted with 8 booms, each boom being served by a 7 x 12 in reversible double drum steam winch. The propelling machinery consists of a triple expansion surface condensing engine, with cylinders 20½, 33 and 54 in. diam. by 40 in. stroke, by John Inglis Co., Toronto, supplied with steam by 2 Scotch boilers, 11 ft. long by 15½ diam. at 185 lbs. The deck winches and windlasses are supplied by Clarke Chapman & Co., and the steering engine by John Hastie and Co., both of England. The vessel is expected to leave Midland, for the seaboard, about Nov. 1.

With the launching of this vessel, the last of the orders placed for the British Government in Canada, for war purposes, is completed. During 1917 and 1918, orders were placed in Canada for 43 steel vessels, at an approximate cost of \$40,000,000, and for 46 wooden vessels, costing approximately \$24,500,000. The approximate d.w. tonnage of the steel steamships is 211,300, and of the wooden steamships 128,000, an aggregate of 339,300 d.w. tons. The first of the steel steamships was launched May 18, 1917, by Wallace Shipyards Ltd., North Vancouver, B.C., and the first wooden steamship, Dec. 28, 1917, by the Foundation Co., Victoria, B.C.

Prior to the war, shipbuilding had been carried on in Canada in a more or less desultory fashion, chiefly on account of the much lower cost of building in other countries, and, it is claimed, owing to the lack of aid by the Dominion Government, in the form of cash subsidies, or tariff restrictions and alleviations. The placing of these orders by the British Government, gave the necessary impetus to the industry, and the labor conditions consequent on the war, aided in making the cost of shipbuilding in the Dominion more nearly approximate that prevailing in other countries, and in some cases there was a distinct advantage with the Dominion. Several new shipbuilding companies were formed and most of these are still in operation, building vessels for the Dominion Government, and for other allied and neutral countries. A few of these yards, which built wooden

steamships on the completion of their contracts have closed their yards, but in the circumstances as they existed at the time, this can only be regarded as inevitable. It remains that the distribution of these orders gave shipbuilders a direct incentive to expand the shipbuilding industry, and an opportunity to place it on a sound and lasting basis.

**Canada Steamship Lines' Expansion Plans.**

Montreal press dispatch, Oct. 24.—Following on the success that has attended the operations of Canada Steamship Lines on the Atlantic, the report is heard in local shipping circles that important extensions to the ocean service are under consideration. At present the Canada Steamship Lines, through its subsidiary, La Compagnie Canadienne Transatlantique, is operating a passenger and freight service from Canadian to French ports. The amount of traffic that has been booked from Canada and the demand for shipments to other European countries will now, it is said, result in additional arrangements being made. According to present plans, these arrangements will all be completed well before the opening of the next season of navigation on the St. Lawrence. E. Dal Paize, who is a director of La Compagnie Canadienne Transatlantique and Managing Director of La Compagnie General Transatlantique of Paris, France, is expected to reach the city within the next few days to confer with J. W. Norcross, President, Canada Steamship Lines, regarding the extensions now under consideration.

**Icebreaking Steamship J. D. Hazen**—The Solicitor General stated in the House of Commons recently, in answer to an enquiry, that the British Government was advised, Feb. 26, 1916, that the Dominion Government would agree to transfer this ship to the Russian Government. The ship, in its then unfinished condition, was, on the British Government's request, transferred to the Russian Government, the consideration being that the total amount expended by the Dominion Government on construction, should be refunded. As far as the government is aware, the further disposition of the ship rests with the Russian authorities. The Dominion Government having received payment in full for the ship, the delegates to the peace conference did not insist on the ship's return. The government has under consideration the building of another icebreaking steamship to facilitate winter navigation in the lower St. Lawrence.

**Toronto Harbor Life Saving Stations**—The operation of the life saving stations in Toronto Harbor, controlled formerly by the Naval Service Department, has been transferred to the Toronto Harbor Commissioners, and new stations are to be equipped at the eastern and western channels, and at Scarboro Beach and the Humber River. J. M. Allin, who was appointed Inspector of Dredging in 1901, and Deputy Harbor Master in 1907, has been given charge of the life saving stations and police patrol.

**St. Lawrence River Channel Dredges**—It was officially stated in the House of Commons recently that the following number of dredges were in service between Quebec and Montreal during the navigation seasons of 1911 to 1918, both inclusive: 1911, 11; 1912, 12; 1913, 13; 1914, 1915 and 1916, 16; 1917, 11; 1918, 5.

**Dominion Government Terminal Elevator at Vancouver, and Grain Shipments to England.**

In answer to questions in the House of Commons, Oct. 8, the Minister of Railways gave the following information:

Construction on the government terminal grain elevator at Vancouver commenced in 1915. Power was first laid May 10, 1916. The building was erected by contract, by Barnett McQueen Co., Fort William, Ont., the total cost of construction at commencement of operation, including machinery and equipment, being \$760,671.39. Its total storage capacity is 1,500,000 bush. The cost of the per bushel capacity was 50<sup>711</sup>/<sub>1000</sub> cents. The superintendent of construction was C. D. Howe.

The following grain has passed through the elevator: 1916-1917, 216,284 bush.; 1917-1918, 671,205 bush.; 1918-1919, 889,234 bush.

The financial results for the fiscal years ended July 31, were: 1916-1917, earnings, \$4,731.24, net loss \$11,506.98; 1917-1918, earnings, \$9,422.81, net loss, \$4,641.59; 1918-1919, earnings, \$22,043.65, net income, \$13,514.54. There are six employes.

No overage has existed at Vancouver elevator in commercial grades. We have, however, disposed of grain sweepings as follows: 1916-17, nil; 1917-18, 418<sup>20</sup>/<sub>2000</sub> tons at \$51.30 a ton, \$251; 1918-1919, 1241<sup>370</sup>/<sub>2000</sub> tons at \$72.40 a ton, \$8,995.44. Total, 1291<sup>190</sup>/<sub>2000</sub> tons. Value, \$9,146.44.

The following wheat and other grain passed through the elevator en route to European markets via Panama Canal: Wheat—1 hard, 15,165.50 bush.; 1°, 151,296.20 bush.; 2°, 94,107.00 bush.; 3°, 59,340.20 bush.; No. 1, 40,154.10 bush.; No. 2, 9,845.50 bush.; No. 4, 23,459.30 bush.; No. 5, 13,232.40 bush.; Australian, 173,979.10 bush. Total, 580,580.50 bush.

The moisture content of the wheat when landed in Liverpool, after passing through the Panama Canal, compared with moisture test made before being loaded from elevator in Vancouver, was as follows:

Parcel.	Sampled at loading. %	Sampled at discharging. %
B .....	14.0	14.1
E .....	13.8	13.7
Y .....	15.0	14.7
C .....	13.2	13.1
D .....	13.6	13.5

**Stevedores Limited** has been incorporated under the Dominion Companies Act, with a capital of \$10,000 and office at Montreal, to carry on a general stevedore, wharfinger and warehouse business, and in connection therewith to own and operate grain elevators, steam and other vessels, etc., and to act as common carriers by water. The provisional directors are Hon. W. J. Shaughnessy and employes of his legal firm.

**Engineering Service Ltd.**, has been incorporated under the Dominion Companies Act, with \$20,000 authorized capital, and office at Montreal, to carry on a general engineering business, and to design and build railways, bridges, piers, docks and other works. G. Crutchlow and R. L. D. Mackie, engineers, Montreal, are chiefly interested.

**The Lord Strathcona Steamship Co. Ltd.**, has been under the Dominion Companies Act, with \$1,500,000 authorized capital and office at Montreal, to own and operate steam and other vessels and carry on a general navigation business.

**Atlantic and Pacific Ocean.**

A London, Eng., press report states that of 43 German line steamships, all upwards of 10,000 gross tonnage each, the United States has 25, Great Britain 6, Italy 2, and Brazil 1, with 9 unallotted.

The United States House of Representatives, on Oct. 2, passed a bill changing the system of measurement of vessels passing through the Panama Canal, which provides an increase of approximately 15% in canal revenues.

A steamship service between U.S. ports and Ireland is stated to have been arranged for, in order to meet the demands of a number of U.S. industrial concerns having branches in Ireland. It is stated that Henry Ford, the automobile manufacturer, is to provide the service.

It is reported that communications are taking place between the Canadian Trade Commission in London, Eng., and the Governor of the Gold Coast, West Africa, for the establishment of a direct steamship line between Canada and ports on the west and southwest coast of Africa.

British Government passenger returns to the end of June, in and out of Great Britain, show to British North America outward 31,000, inward 23,000; Australia, outward 6,000, inward 2,500; South Africa, outward 1,500, inward 5,000; United States, outward 11,000, inward 24,000.

The Overseas Shipping Co. is reported to have arranged to start a steamship service in November, between Vancouver and the west coast of South America. The steamships Joan of Arc, Sin-aola, and Regulus, are mentioned for the service which will carry chiefly sugar for British Columbia refineries.

A London, Eng., press report of Oct. 2, stated that plans were being discussed there, among a number of independent shipping men, for a steamship service between Canada, the U.S. and the Levant, that some well known Montreal shipping men are interested and that developments may be expected shortly.

A Franco-Belgian shipping combine is reported as being formed, with a capital of 25,000,000 francs, that the preponderance of influence in the company will be Belgian, and that its steamships will sail under the Belgian flag, from Antwerp, to Canada, the United States, the South Antilles and other points in the Pacific.

The Bishop Navigation Co.'s s.s. Iver Heath, formerly the Canadian Pacific Ocean Services' s.s. Lake Manitoba, which has been completely rebuilt by Halifax Shipyards, Ltd., underwent her trial trips, Oct. 12. She developed a speed of 14 knots an hour, and preceded subsequently to Philadelphia, Pa., where she took on a cargo of coal for Genoa, Italy.

The Canadian Trade Commission has announced that a direct steamship service between Canada and Norway has been arranged. The s.s. Ranenfjord sailed from Norway Sept. 26, for Montreal and left Montreal for Norway, Oct. 15, to call at Bergen, Stavanger and Christiania. The service is under the management in Canada of Canadian Pacific Ocean Services, Ltd.

W. Grant Morden, M.P., of the Canada Steamship Lines, Ltd., London, Eng. advisory board, is reported to have stated that the company intends to increase its ocean service in the near future, and that in addition to the services already given jointly by Canada Steamship Lines, and

Canadian Trans-Atlantic Co., to France, similar services are to be inaugurated between Canada, Belgium and Holland.

The Marine Navigation Co. of Canada, is reported to have completed arrangements for the establishment of a direct steamship service between Canada and Brazil. For this purpose, it is stated, 5 steamships of approximately 5,000 d.w. tons each are nearing completion in Holland, which, when finished, will be registered in Canada. It is said that the first sailing from Montreal will take place this year and that during the winter, sailings will be made from St. John, N.B.

The Canadian Pacific Ocean Services' s.s. Empress of France, formerly s.s. Calgarian, which arrived at Quebec early in October, has been thoroughly overhauled and refitted, subsequent to her service as an auxiliary steamship during the war. Lieut. R. N. Stuart, V.C., D.S.O., is her first officer. The auxiliary steamship on which he was engaged during the war did considerable service and two V.C.'s were awarded, one for officers and one for the crew, each party having to elect the individual to whom it was to be given, the officers unanimously electing Lieut. Stuart.

Elder Dempster & Co. are extending their steamship service out of Montreal, chiefly with South African ports. Two new ships, New Brunswick and New Texas, were in Montreal recently taking cargo for Cape Town. These ships were built at Belfast, Ireland, and have approximately 4,044 d.w. tons capacity. The s.s. New Texas carried 5 locomotives for the South African Government Rys., which were built by Montreal Locomotive Works. Another steamship of similar type is expected in Montreal shortly, named New Toronto, and these three will be followed by another three, all intended for the Canadian-South African trade.

**Maritime Provinces and Newfoundland.**

The Dominion Coal Co.'s s.s. Corunna, is under going boiler repairs at Halifax, N.S.

The Harbor Grace, Nfld., shipbuilding plant was partly destroyed by fire, Oct. 2.

The British s.s. Chelston, which ran ashore at St. Paul's Island, several weeks ago, broke up and became a total loss during heavy weather Oct. 1. Attempts to salvage her met with no success and the greater part of her cargo was also lost. She was owned in Glasgow, Scotland.

The Red Cross Line's s.s. Rosalind, ran aground on Crow's Reef, while en route from St. John's, Nfld., to New York, towards the end of September. The freight, which consisted chiefly of fish, was lightered, and a large hole in the bottom of the vessel was stopped to enable her to be taken to port for complete examination and repairs.

The Minister of Public Works stated in the House of Commons, Oct. 6, that a petition had been received from residents of Park Corner and Sea View, P.E.I. asking the department to dredge out Graham's River, to make it suitable for a boat harbor, but that it was not proposed to take any action, as the estimated cost of the harbor petitioned for is approximately \$40,000, and there are harbors within five miles on either side.

**Province of Quebec Marine.**

The Minister of Marine stated in the House of Commons recently that the government had received a petition from Isle Aux Coudres, Charlevoix County, asking the construction of a breakwater on the southwest side of the island, and that the matter was under consideration.

The wrecked s.s. Montmagny, which has been lying under water near the Isle of Orleans for several years, and which was purchased by Dussault Bros., Levis, Que., with a view to raising her, is reported to have been abandoned after a fourth unsuccessful attempt at salvage.

Judgment was given in the Exchequer Court, at Montreal, at the end of September, allowing the appeal with all costs, of Canadian Vickers, Ltd., from a judgment of the Admiralty Court in 1918, which reduced the company's claim of \$52,983.34 to \$35,000, for work done on the s.s. Susquehanna. Judgment was entered for \$40,484.95 and costs.

The Minister of Public Works stated in the House of Commons recently, in answer to questions, that five tenders were received for building a wharf at

**Sault Ste. Marie Canals Traffic.**

The following commerce passed through the Sault Ste. Marie Canals during August, 1919:

ARTICLES.	Eastbound.		
	Can. Canal	U.S. Canal	Total
Lumber.....m. ft. b. m.	1,132	38,067	39,199
Flour.....Barrels	399,040	536,660	935,700
Wheat.....Bushels	1,068,001	419,217	1,487,218
Grain, other than wheat.....Bushels	3,089,867	2,194,874	5,284,741
Copper.....Short tons	1,340	8,873	10,213
Iron Ore.....Short tons	63,456	4,664,538	4,727,994
Pig Iron.....Short tons	175	.....	175
Stone.....Short tons	5,887	4,175	10,062
General Merchandise.....Short tons	3,098	4,610	7,708
Passengers.....Number	6,645	3,075	9,720
	Westbound.		
Coal, soft.....Short tons	42,300	1,147,258	1,189,558
Coal, hard.....Short tons	5,700	179,687	185,387
Iron Ore.....Short tons	.....	1,034	1,034
Mfd. Iron and Steel.....Short tons	17,414	6,696	24,110
Salt.....Short tons	1,253	10,271	11,524
Oil.....Short tons	.....	41,901	41,901
Stone.....Short tons	.....	14,654	14,654
General Merchandise.....Short tons	30,881	30,261	61,142
Passengers.....Number	7,653	2,917	10,570
	Summary.		
Vessel passages.....Number	519	1,584	2,103
Registered tonnage.....Net	730,822	4,407,378	5,138,200
Freight—			
Eastbound.....Short tons	210,779	4,869,872	5,080,651
Westbound.....Short tons	97,548	1,431,762	1,529,310
Total Freight.....Short tons	308,327	6,301,634	6,609,961

Notre - Dame - des - Sept-Douleurs, Isle-Verte, Que., the lowest being from N. Letourneau and J. A. Fortier, which was accepted. The department intends to proceed with the work immediately, so that Isle Verte people may be in a position to use the wharf next spring in shipping sea products.

### Ontario and the Great Lakes.

The Naval Service Department's Hydrographic Branch, has issued a new chart of Lake Erie, eastern portion.

The Department of Railways and Canals received tenders, Oct. 20, for the reconstruction of the east pier at Port Maitland.

The s.s. Magnolia, registered at Midland, as owned by Canada Steamship Lines, Ltd., has had her name changed to Luckport.

The Webster Steamship Co.'s s.s. Richard W., ran aground in Lake St. Louis, early in October, when proceeding from Kingston to Ogdensburg for cargo.

The Railways & Canals Department invited tenders recently for placing stone protection on the summit level of the Welland Canal between Thorold and Port Colborne, but no tenders were submitted.

Canada Steamship Lines' s.s. W. Grant Morden, arrived at Port McNicoll early in October, with 503,156 bush. of wheat from Fort William. This is claimed to be a record cargo, the previous record having been 493,000 bush. by the s.s. William P. Snider, Jr.

The Montreal Transportation Co.'s barge Hilda, broke from her tug during a gale, near the Gallop Islands, Lake Ontario, towards the end of September, and ran ashore at Stony Point near Henderson Harbor. She carried 35,000 bush. of wheat and was bound from Buffalo, N.Y., to Montreal. She was released early in October.

The Hydro Electric Power Commission of Ontario is operating a drill scow in the neighborhood of Morrisburg, and Cat Island, and navigators are asked to assist in the operation by causing as little disturbance as possible when passing. The scow exhibits the usual signals for a vessel not under command, as prescribed in the rules of the road for the Great Lakes.

The schooner Bertie Calkins, while taking coal from Oswego, N.Y., to Belleville, sprang a leak during heavy weather, Oct. 12, and sank. There was no loss of life, the crew reaching land in the boats. The schooner was owned by R. G. K. Hepburn, and T. L. Vandusen, of Picton, and was built at Two Rivers, Wis., in 1874. It is expected that she will be raised and taken to Belleville.

The U.S. Lake Survey reports the stages of the Great Lakes in feet above mean sea level for September as follows: Superior, 602.55; Michigan and Huron, 580.81; St. Clair, 575.61; Erie, 572.75; Ontario, 246.86. Compared with the average September levels for the past 10 years, Superior was 0.08 ft. below; Michigan and Huron, 0.14 ft. above; Erie, 0.38 ft. above; Ontario, 0.73 ft. above.

The s.s. T. J. Waffle, owned by Swift & Co., Kingston, is believed to have foundered in Lake Ontario, Sept. 22. She sailed from Fairhaven, N.Y., that day with coal for Kingston, and during Sept. 24, wreckage and life preservers bearing the name of the vessel were found on the beach near Oswego. There were known

to be on board, in addition to the master, Capt. C. Beaupre, a crew of 6 men and one woman. The vessel was built at Westport, Ont., in 1914, and had an oak hull, and was equipped with high pressure engine with cylinder 12 in. diam. by 14 in. stroke, supplied with steam by a single firebox boiler, 4 ft. 8 in. diam. by 8 ft. long, at 150 lbs. Her dimensions were: length, 105 ft.; breadth, 22 ft. 5 in.; depth, 8 ft.; tonnage, 202 gross, 104 net.

### British Columbia and Pacific Coast.

The Union Steamship Co.'s s.s. Camosun, which arrived at Vancouver, Oct. 17, with a broken rudder post, is being repaired by Wallace Shipyards, Ltd.

The C.P.R. s.s. Princess Alice, was laid up early in October, for her annual overhaul. As soon as this is completed she will replace the s.s. Princess Charlotte, which will also be overhauled.

A test action had been entered against the C.P.R., for unstated damages, for the loss of A. R. McLean, when the s.s. Princess Sophia ran ashore on the rocks, and eventually sank, in the Lynn canal about a year ago.

An uncharted rock, marked by kelp, is reported 300 ft. northwest of the island situated north of Safa Island in the Pearse Canal. There is a depth of 17 fathoms inside the rock, and over 30 fathoms in the channel north of the rock.

The acting Minister of Marine stated in the House of Commons, Oct. 22, that the operation of Bamfield life saving station had been temporarily suspended on Aug. 15, and that applications had been invited to fill the positions of crew at the stations, with a view to put it into operation for the coming winter.

The acting Minister of Marine and Fisheries has, according to an Ottawa press dispatch of Oct. 21, given notice of an amendment to the Shipping Act, to provide that ships registered in Canada, employed in voyages between ports in British Columbia and San Francisco, or any United States port north of San Francisco, shall be exempt from the payment of pilotage dues.

The Dominion Government lighthouse steamship Leebro left Victoria, Oct. 8, to place four new aids to navigation in northern waters, viz., a new gas light at Camp Point, Grenville Channel, an oil light at David Point, near Ocean Falls; a gas light on Kinnahar Island, new Prince Rupert, and a gas light on Gin Rock. The light house steamship Newington has left Victoria for the west coast of Vancouver Island, to examine and overhaul aids to navigation there.

The British Admiralty is reported to have raised 440 sunken ships during the last four years, which, with cargoes, are valued at \$225,000,000.

**Welland Canal Lock Gate Accident.**—The U.S. s.s. Lake Elon, in passing through the Welland Canal, en route from Conneaut, Ohio, to Montreal, Sept. 30, struck the foot gates of lock 23 and severely damaged them, but did not carry them out. It was necessary to place two spare gates in position, and navigation was resumed early Oct. 1, having been interrupted for 16 hours. The master of the vessel stated that he gave the engineer the signal to reverse, but that the vessel went ahead, instead of backing up. The damage is estimated at \$5,000.

### Contracts Let for Marine Public Works.

The Dominion Public Works Department has let the following contracts:

Port Elgin, Ont., repairs to town wharf and reconstruction of breakwater; Max Clairmont, Goderich, Ont.; Sept. 2; schedule of prices.

Half Moon Bay, B.C., construction of pile bent and timber decking wharf; Fraser River Pile Driving Co., New Westminster, B.C.; Sept. 2; \$5,775.

Fraser River, B.C., from entrance of North Arm to New Westminster; dredging; Pacific Construction Co., Vancouver; Sept. 2; class B., \$0.15½ a cu. yd., place meas.

St. Maurice River, Three Rivers, Que.; dredging; Simpson Bros. Co., Montreal; Sept. 3; class B., \$0.24 a cu. yd., scow meas.

Sidney, B.C., repairs to wharf; McDonald, Watson & Wither; Victoria; Sept. 3; schedule of prices.

Roberts Bay, B.C., repairs to float and approach; McDonald, Watson & Wither; Sept. 3; schedule of prices.

Saanichton, B.C., repairs to wharf; McDonald, Watson & Wither; Victoria; Sept. 3; schedule of prices.

Toronto harbor, eastern entrance; reconstruction of portion of superstructure of east pier; C. S. Boone Dredging & Construction Co., Toronto; Sept. 9; schedule of prices.

La Prairie, Que.; Improvements to protection dike; A. Lacroix, and H. Gravel, St. Lambert; Sept. 15; schedule of prices.

Grosse Isle, quarantine station, Que.; construction of operating house in connection with radiotelegraph station; Delphi Maranda, Que.; Sept. 13; \$2,340.

North Lake, P.E.I.; boat harbor; J. Hughes, J. Quinn and L. B. MacMillan, Charlottetown; Sept. 23; schedule of prices.

Berthier en bas, repairs to wharf; Nazaire Letourneau, Montmagny; Sept. 20; unit prices.

Okanagan Center, B.C.; construction of public wharf; S. Mills, New Westminster; Sept. 26; schedule of prices.

Shippigan Gully, N.B.; repairs to breakwater; A. Landry and S. G. Robichaud, Shippigan; Sept. 27; schedule of prices.

Depot Harbor, Ont.; renewal of wharf; R. Brewder, Ottawa; Oct. 3; schedule of prices.

Ste. Anne de Beaupre, Que.; wharf repairs and reconstruction; Onesime Poliquin, Portneuf, Que.; Oct. 10; schedule of prices.

**Demountable Wooden Ships.**—A Pacific coast press report says:—The demountable ship is not yet a reality. The scheme suggested by John Arbuthnot of Victoria, B.C., has not yet been tried. It is announced that construction will be started in Seattle by a shipbuilding man formerly resident in Victoria. The builder is said to have gone to New York to arrange for the building of the demountable craft. Canadian banking interests are said to be behind the venture, and their support was not given until thorough investigation had been made by marine experts, and approval given. The two ships that are to be built in Seattle will contain between 5,000,000 and 6,000,000 ft. of lumber, and will be fitted with auxiliary power that will give them a speed of 5 to 6 knots. It is estimated that the market value of each ship will be \$250,000 in Puget Sound, while the price it will bring in Great Britain is \$500,000.

## Control of Canadian Ships by British Ministry of Shipping.

London, Eng., Oct. 1.—Many ship-owners and heads of industries in Canada have complained of the attitude of the British Ministry of Shipping in its refusal to release tonnage chartered for use in the Canadian trade and commanded by the Ministry of Shipping during the war. They have summed up this as a discrimination against Canadian interests. Senator Nicholls, made the same statement in the Senate at Ottawa recently. People in Canada are not in a position to judge of the enormous difficulties under which the Ministry of Shipping has worked and the Canadian mission in London secured the following statement from Sir Norman Leslie, who was Director of Requisitioning in the Ministry of Shipping during the war. Sir Norman has also presented the case to the satisfaction of some prominent Canadian shipping men who were recently in England. In his criticism of Senator Nicholls' speech he says it appears to him to be a statement of the hardships inflicted on the Dominion Coal Co., supported by a general accusation of discrimination by the British Government against the Canadians during the war and since the armistice. The statements about the coal company, he says, are of relatively small importance. The attempt to strengthen the prejudice against the mother country by suggesting that people in England were favored at the expense of friends and allies is a serious matter, but needs only fuller information to be dispelled. Sir Norman continues:

"In 1916 shipping was the most vital problem which faced Britain. Britain had to bear not only her own burdens but those of the allies. Italy's ammunition factories were calling for coal. Similarly Britain had to supply France with 2,000,000 tons of coal a month, carry wheat to her shores, and assist in the importation of war materials. After 1916 the immense extension of the British fronts required the requisitioning of vessels in batches from 20 to 150 at a time. Charter parties were ruthlessly broken, contracts waived on one side, cargo left in warehouses, and ships thus obtained to carry stores to the army and allies and coal to the fleet. All day long the transport department was thronged with ship owners, merchant charters, manufacturers, members of parliament, foreign attaches, high commissioners, and even bishops, each with a moving tale to tell of the loss inflicted, factories closed, and the welfare of the whole districts imperilled by the ruthless requisitioning of chartered tonnage required for contract. The coasting trade was reduced to a skeleton. Engagements which seemed inviolable in April were doubtful in July and ruthlessly upset in September, and by the end of autumn 1916, there were practically no more tramp steamers available. The only way to get further tonnage was to curtail the voyages of liners and see that they brought cargoes from the nearest possible spot, instead of along the usual routes. Supplies from places like India, Australia, New Zealand and the far east were cut down to the barest possible figures. The Chinese coasting trade, which had been built up by British shipowners during half a century, was entirely broken up and the ships put into the Persian Gulf for the

Mesopotamian expedition and the trade handed over temporarily to the Japanese. The services between North America and Argentine were discontinued and taken up by neutrals. Steamers trading on the Indian coast were transferred to the Atlantic, and meat steamers which were built for Australian and New Zealand trade were concentrated on the Atlantic.

"We bought millions of tons of wheat in Australia, and left it there to be eaten by mice and weevils because we had not ships to bring it home—and people talk of discrimination. Any Canadian who may think that in circumstances of such stress, it was possible to discriminate, has only to look at the quantities exported from Canada in 1916, 1917 and 1918, and at the names of the ships which visited the St. Lawrence, the Corinthic from New Zealand, Dunvegan Castle, from the Cape, Themistocles, for Australia, Khiva from India, Jason from Japan, and the Darro from Plate, to realize that if there was any discrimination it was certainly not against Canada. That the Dominion Coal Co. suffered hardships by the temporary losses of some cheap-time chartered steamers is true, but so did hundreds of firms in Britain. That coal as a consequence was scarcer and dearer in Canada is also true, but it was never so scarce nor so dear as in Italy or France, nor the consequences of the scarcity fraught with such terrible possibility."

London, Eng., Oct. 6.—Shipping conditions on the Atlantic route are now easier than they have been at any time in the past six months. The Ministry of Shipping is taking only 40% of Canadian cargo space for October, leaving 60% for commercial cargo. It is not believed here that the movement of the wheat crop will result in a shipping scarcity again. The British Government will supply ships for the transport of its purchases of grain from Canada, and it is expected there will be a slackening of the Ministry of Food's requirements on account of the congestion at the British docks, which has led to vigorous protests against further large importations of bacon, timber, etc., until conditions improve. The recent announcement of the transfer of Canadian vessels from British to Canadian registry does not mean the automatic transfer of all such ships. In most cases the Ministry of Shipping will continue its control while it remains in office, which it is expected to do for six or seven months longer.

London, Eng., Oct. 13.—The Shipping Controller has informed the Canadian Trade Mission that the British Government, which now requisitions 50% of cargo space to Canada, expects to requisition less gradually every month henceforth, although some months must elapse before a reduction in freights and the tendency of increased exports to stabilize exchange can be expected.

The foregoing cable dispatches were sent by the Montreal Gazette's London correspondent.

London, Eng., cable to Toronto Globe, Oct. 24:—The North Atlantic Traffic position is now very much clearer, especially as regards passengers, and the waiting list has been nearly run off altogether. The repatriation programme has been carried out so vigorously that

the government now requires only one-fifth of the total passenger space. At the request of Capt. Fisher of the Canadian Pacific Ocean Services, the British Government has allotted the ex-German Prinz Friedrich Wilhelm, 17,600 tons, about the size of the Empress of France, to replace the Melita, which the government borrowed to ease the congested traffic to the far east. Consequently the Montreal service will not suffer.

Regard to future reconditioning is still impeded by the idiosyncrasies of the British workman, who when working for the government feels it a point of honor not to work too hard. It is wonderful to what trouble and inconvenience he will put himself to achieve this end. At a recent inspection workmen were found standing in a pitch dark place smoking. Others were locked up in the cabin asleep. This is the reason why, in the case of the Empress of Britain, the company has decided to accept a lump sum in compensation and do the work itself. The vessel will be completely gutted and reconstructed in the most modern manner. It is hoped, by substituting oil for coal, to gain another knot in speed and work up to 19 knots. This is quite in the fashion, for, while the transatlantic line still prefers a mixture of coal and oil, the P. & O. has just decided to build seven or eight ships for oil alone.

## Proposed Dry Docks at Vancouver, B.C.

Applications have been made to the Dominion Government for aid under the Dry Docks Subsidies Act, for the construction of dry docks at Vancouver, as follows:

**J. Coughlan and Sons**—For concrete graving dock, 700 ft. long, 100 ft. wide at entrance, 32 ft. depth of water over sill at ordinary spring tide, to be built about 1,000 ft. west of the Dominion Government wharf and grain elevator, at an estimated cost of \$3,658,000.

**Davidson and Cameron**—For a concrete graving dock, 1,150 ft. long, 125 ft. wide at the entrance, 38 ft. depth of water over sill at ordinary spring tide, to be built at Deadman's Island, at an estimated cost of \$6,600,000.

**Wallace Shipyards Ltd.**—For a floating dry dock of 15,000 tons capacity, to be built just east of the ferry landing at North Vancouver, at an estimated cost of \$3,500,000.

The applications are being examined by the Public Works Department's Engineering Branch. The estimated costs of all dry docks are subject to revision by the department.

The s.s. *Cabotia*, which was wrecked recently, was offered for sale early in October. She was built at Gibraltar, Mich., of oak, in 1880, and named *Hiawatha*, and has diagonal strapping on the frames and steel boiler house. She underwent large repairs to hull in 1917-18, and extensive repairs were made to her engine during 1919. Her dimensions are: length, b.p., 234 ft.; breadth, moulded, 36 ft.; depth, moulded, 30 ft.; tonnage, 1,530 gross, 932 net. She is equipped with fore and aft compound engine, having cylinders 21 and 50 in. diam., by 46 in. stroke, 700 i.h.p. at 85 r.p.m., and supplied with steam by a single Scotch boiler 12 x 12½ ft. at 125 lb. The wreck was purchased by the Donnelly Salvage and Wrecking Co., which raised the ship and took her to Kingston, Ont.

## The Tonnage of Ships Explained.

With the very large extension of the shipbuilding industry in Canada, during the war, considerable attention has been directed to a number of the technical details of ship construction, by those whose business and interest are connected with shipbuilding, but who are not intimately concerned with the technical side of the industry. Among these, is the matter of tonnage calculation, about which there is undoubtedly a great deal of misconception. Frequent reference is made in the daily press, and very often wrongly made, to gross tonnage, net tonnage, displacement tonnage and deadweight tonnage, with little idea as to how these are arrived at. The following information will doubtless be of interest in this connection:

Before entering upon an explanation of the various formulae used in determining the tonnage of a vessel, a brief recapitulation of the British tonnage laws may be of interest. Until 1694, no act of parliament enforced a rule for tonnage measurements on English ships, with the exception of "keels" and vessels loading coals on the Tyne and Wear. The earliest English tonnage law was passed in 1422, and applied exclusively to "keels" used in carrying coals at Newcastle-on-Tyne. Its object was to measure accurately the "portage" of each keel, and to mark that portage on the vessel so that the King's due of two pence per chaldron might be secured. In 1679 a further act was passed, extending the law to the Wear, and in 1694 deadweight was substituted for chaldron measure. An act of 1775 extended this law to vessels loading coal in any port in the United Kingdom. The act of 1694 was the first act of parliament embodying a rule for estimating tonnage for English sea-going and coasting ships. As the first English tonnage rule, it is worth reproducing, though the act was repealed in 1696. It ran as follows:—

L = length of keel (so much as she treads on the ground).

B = breadth amidships (inboard from plank to plank).

D = depth of hold (from plank below keelson to under part of plank of upper deck, up to which cargo is stowed).

$$L \times B \times D$$

$$\text{Tonnage} = \frac{L \times B \times D}{94}$$

The next English tonnage law, enacted in 1773, applied to all classes of merchant ships. It continued legally in force up to 1835, and is even now used, and known as the B.O.M., or

**Builder's Old Measurement Rule.**—In carrying out this rule, the length was taken on a straight line along the rabbet of the keel, from the back of the main stern post to a perpendicular line let fall from the fore part of the main stem under the bowsprit. The breadth was the extreme breadth to the outside planking, exclusive of doubling planks or strakes that might be wrought at that part.

If L = length, B = breadth, then tonnage (B.O.M.) =  $\frac{L \times 3/5 B \times B \times B/2}{94}$

Following this brief retrospect, let us now consider present day methods of computing the tonnage of our ships.

**Displacement.**—To the lay mind, displacement tonnage must convey the most ready and accurate idea as to the relative sizes of ships, as it gives their actual weights, or, in other words, the weights of the volumes of water they displace.

It is the system used in denoting the tonnage of all warships. As Sir William White says in his classic work on Naval Architecture, it is usual to express the volume in cubic feet, and for sea water to take 64 lb. as the weight of a cubic foot; so that the weight of the ship in tons, multiplied by 35, gives the number of cubic feet in the volume of displacement when the ship floats in sea water. If our ships were simply parallelepipeds, the displacement in tons would, of course, be quickly arrived at, by simply multiplying the length in feet on the load line by the breadth, also in feet, on the load line by the mean draft in feet, and dividing the product by 35. But, as the under bodies of our ships are anything but simple rectangular forms, two processes are generally made use of in computing a vessel's displacement, as the calculations in each process are required to determine the position of the center of gravity of displacement, or center of buoyancy, and also because the two results are a check on the correctness of the calculations. One process consists in dividing the length of the ship on the load water-line by a number of equidistant vertical sections, computing their several areas by one of Simpson's rules, and then treating them as if they were the ordinates of a new curve, the base of which is the load water line. In the other process the depth of the vessel below the load water-line is divided by a number of equidistant longitudinal planes parallel to the water line. The areas of these are computed by Simpson's rules, and are treated as if they were the ordinates of a new curve, the base of which is the vertical distance between the load water line and the lowest longitudinal plane.

**Gross Register Tonnage** is reckoned at the rate of 100 cub. ft. of capacity, and is measured according to the Merchant Shipping Act, 1894, by taking the areas of a number of transverse sections, varying in number, from 4 ships not exceeding 50 ft. long to 12 in vessels of over 225 ft. The areas are then treated as the ordinates of a new curve of the same length as the vessel, and the area of the new curve, found by Simpson's first rule, will be the capacity of the vessel in cub. ft. which, being divided by 100, gives the gross register tonnage. Approximately, gross register tonnage may be found on the following formula:—

L = the inside length on upper deck, from plank at stem to plank at stern.

B = the inside main breadth.

D = the inside midship depth from upper deck to ceiling, at limber strake.

$$\text{Register tonnage} = \frac{L \times B \times D}{100} \times C.$$

C 0.65 for steamers of two decks.

0.68 for steamers of three decks.

The values thus obtained give the entire cubical capacity of the ship. The capacity of the poop, deck houses, and other permanently enclosed spaces is to be measured and included, but deductions are allowed for buildings erected for the shelter of passengers only, for crew space at the rate of 120 cub. ft. per man, and for propelling space. This third item, for screw steamships, is taken at 32%, if the cubic content of the space is 13% and under 20% of the gross tonnage; but if the space is less than 13% or more than 20% of the gross tonnage, then either 2%, or 1½ times the space, may be deducted.

Deductions are also allowed for (1) any space used exclusively for the accommodation of the master, (2) any space used exclusively for the working of the helm, the capstan, and the anchor gear, or for keeping charts, signals, instruments of navigation, and boatswain's stores, (3) the space occupied by the donkey engine and boiler, if connected with the main pumps of the ship and (4) any space (other than double bottom) adapted only for water ballast.

**Net Register Tonnage** is a very elastic term, and is arrived at by deducting the various allowances specified above from the gross register tonnage, to which it bears no ratio or proportion; in fact, it may even become a minus quantity. We have now examples of coasting steamships of 270 tons gross register carrying 220 tons deadweight and trading on a net register of 12 tons.

The foregoing is reproduced from The Shipping Directory, London, Eng.

### Another Explanation of Tonnage.

The United States Shipping Board issued the following recently:—To many persons who are not experienced shipbuilders, the various uses of the term "tonnage" in relation to the size of a ship may be confusing. The following article from the Pusey & Jones Shipbuilder explains the terms well and makes a clean distinction between the various ways in which they are used:

There are four kinds of tonnage in use in shipping circles. They are gross tonnage, net registered tonnage, deadweight carrying capacity, and displacement.

Deadweight tonnage is what the vessel can actually carry in tons of heavy cargo, plus stores and bunker coal.

Gross tonnage is based on the cubic contents of the hull, with certain arbitrary spaces deducted, and has little bearing on the cargo carrying capacity of the vessel.

Net registered tonnage is gross tonnage, with certain allowances for crew space and machinery space deducted, and has little bearing on the dead-weight carrying capacity of the vessel.

Displacement is the total weight of the vessel when full of cargo—that is, the weight of her hull plus her deadweight tonnage.

In round numbers a ship of 9,000 tons deadweight would stand about as follows:

Deadweight carrying capacity	.....	9,000 tons
Gross tonnage	.....	5,000 tons
Net registered	.....	3,000 tons
Displacement	.....	12,000 tons

### Pilotage Rates in Montreal District

An order in council has been passed fixing the pilotage rates in the Montreal district as follows for each foot draft upward or downward:

Inland steamships, \$3.25.

Coasting steamships, \$3.50.

Sea going steamships, \$4.

This is an increase of 75c a foot draft.

**Steamship Tonnage**—The following countries are credited with increases of steamship tonnage since the war began. British Dominions, 1,863,000 tons; U.S., with seagoing vessels, totalling 9,773,000 tons, an increase of 7,746,000 tons over 1914; France, with 1,962,000 tons, and Japan, with 2,325,000 tons. A decrease of 2,547,000 tons is noted for the United Kingdom, and 1,888,000 tons for Germany.



**Proposed Development of St. Lawrence River Navigation and Power.**

Canadian Railway and Marine World asked A. A. Wright, of Toronto, who for many years has taken a very active part in Dominion Marine Association affairs, for his views on the matters referred to in an article under the above heading, which appeared in our last issue, and he has kindly given them as follows:

"The programme being carried out is simply in line with the repeated recommendations made by the Dominion Marine Association, in every discussion which has come up before the International Waterways Commission, where we invariably opposed the granting of rights to private corporations for the development of electrical power on the St. Lawrence River.

"There should be no question at present regarding the advisability of developing every available water power throughout Canada by the Dominion and provincial governments working in harmony, so that factories and railways could be operated by electrical power, and leave the consumption of coal to what is necessary for heating purposes only. With miners asking for 60% increases in wages, after the extraordinary advances of recent years, with a 6-hour day, coupled with the fact that some labor organizers strongly support a 3-hour working day, and still greater increases in wages, it would appear as if coal will soon be beyond the reach of the average man; and, therefore, a careful looking into the question of developing power on the St. Lawrence is worthy of commendation.

"The advantage of constructing works by the joint action of the governments of the two countries, is, that as engineers are not infallible, if it is found that any of the works impede navigation, they can be corrected without everybody hearing about the robbery of the widow and orphan. If it is feasible to develop the power, and preserve free navigation by a limited number of locks for the largest class of ships, this should be done, as no one can foresee the necessities of the future in connection with navigation beyond a very short period.

"It should also be borne in mind, that while the St. Lawrence River is the natural outlet and inlet for coarse bulk and other traffic between Duluth and Chicago and the Atlantic Ocean, as well as from Canadian and United States ports along the great lakes, and connecting rivers, the use of the waterways by large steamships will be restricted for

a number of years, for the reason that canal and river navigation is entirely distinct from ocean navigation, and Montreal is likely to remain the head of navigation for the large freight and passenger liners. It is also likely to remain an unknown port to the large lake steamers of 8,000 tons and over, because at present time there is no return cargo available for ships of this class. This, however, is not a reason for holding up the St. Lawrence River improvement whenever the country is able financially to carry it out, because the smaller ships, which have been trading from Port Colborne to Montreal, could make better time when the improvements are made and thus reduce the cost of carrying freight. In addition to this, when any inland port might happen to receive a full cargo of something from the ocean without breaking bulk, the ship would then be in a position to take a cargo of grain or any other commodity which might be available at an inland port for export.

"The history of railway and steamship companies proves conclusively that trade will develop when the facilities are furnished, and, in my judgment, it is merely a question of the ability of the country to finance the electrical development, and doing this in such a way that navigation of the river would be improved at the same time, so that when required the largest ships likely to trade could be accommodated."

**Canadian Notices to Mariners.**

The following notices have been issued by the Marine Department:

**Nova Scotia—Green Island**—An explosive fog signal will be established as soon as possible.

**Prince Edward Island—North Rustico harbor**—Owing to the shifting of the channel at the entrance to North Rustico harbor, the outer range lights have been moved to a new position near the western breakwater.

**New Brunswick—Shippigan Gully**—Back range light to be re-established—On breakwater, 175 feet 357° 45' (N 21° 30' E. mag.) from front light. Fixed white light, shown from a lens lantern, hoisted on a pole 30 feet.

**Ontario—Toronto harbor**—During dredging operations in the east end of the harbor, pile dolphins have been established to mark the western limits of the dredging. Mariners are advised to change to a westerly course immediately inside the east entrance piers to give the dolphins as wide a berth as possible. Each dolphin will be marked at night by four

white lights. On completion of the dredging the piles will be removed.

**Ontario—Port Arthur**—During the summer of 1919, the Public Works Department has dredged the middle ground between the channels leading to the Richardson elevator wharf and the Saskatchewan Co-operative Co. elevator wharf, to a depth of 25 ft. to within a distance of 275 feet from the front face of the wharves. The black spar buoy formerly moored on the outer end of the dredged cut leading to the Saskatchewan Co-operative Co. elevator wharf, will be moved northward to a new position 275 feet 146° 15' (S. 35° 45' E. mag.) from the southeast corner of the wharf. The red spar buoy formerly moored on the outer end of the dredged cut leading to the Richardson elevator wharf will be moved northward to a new position 275 feet 135° 45' (S. 46° 15' E. mag.) from the southwest corner of the wharf.

**British Columbia—Victoria harbor, fog bell established**—On Shoal Point beacon, on extreme top of slatwork ball and immediately below the light. The bell, operated by electricity supplied by submarine cable from shore, rings continuously at short intervals, during thick or foggy weather.

**Quatsino Sound**—A rock, which only breaks at low water with a heavy westerly swell, is reported to exist 2.5 cables from South Danger rock.

**Vancouver Island, Goletas Channel**—On June 25, the master of the s.s. Redondo reported the existence of a kelp patch between Noble and Blyth islets. A recent examination of the vicinity by the Naval Service Department's Hydrographic Survey, shows that a rocky shoal, 300 ft. in length is situated 1 cable from the western extremity of Blyth Islet, and is marked by kelp. A depth of 12 fathoms was found between the shoal and the islet.

**Fitz Hugh Sound, north entrance to Rivers Inlet, rock southward of Swan rock non-existent**. A recent examination by the Hydrographic Survey, Naval Service Department, shows that the rock referred to in previous notice to mariners does not exist. The locality was swept and a depth of 65 fathoms was found in the position given for the rock.

**New Brunswick—Bay of Fundy, Old Proprietor ledge**—Owing to the ball on the top of Old Proprietor ledge spindle having been broken off, the height will be decreased about 12 ft.

**Quebec—River St. Lawrence—Les Eboulements**—The hand fog horn maintained by Canada Steamship Lines on outer end of pier at Cape St. Joseph is used only to answer signals from their vessels.

**Newfoundland—Fortune Bay, Boxey Point**—Flashing red acetylene light established on the point showing 20 flashes every minute.

**Alliance Steamship Co., Ltd.**, has been incorporated under the Dominion Companies Act, with \$1,000,000 capital and office at Montreal, to carry on a general navigation and steamship business.

**Halifax Graving Dock Expropriation**—The Senate, on Oct. 3, adopted a motion, by Senator Dennis, that an order issue for all papers, letters and telegrams, between any official or department of the government and any person, firm, or corporation between Dec. 7, 1918, and July 1, 1919, and reports thereon, in connection with the expropriation of the Halifax graving dock.

**Vessels Added to and Deducted From the Canadian Register During September, 1919.**

	No.	Steam.—Tonnage—		No.	Sailing.—Tonnage—	
		Gross.	Registered.		Gross.	Registered.
<b>Added.</b>						
Built in United Kingdom.....						
Built in Canada .....	4	8,243	4,895	8	2,880	2,638
Purchased from foreigners.....				2	18	18
New registers .....	1	273	118	2	304	304
Remeasurement without re-registry.....			130			
<b>Totals .....</b>	<b>5</b>	<b>8,516</b>	<b>5,143</b>	<b>12</b>	<b>3,202</b>	<b>2,960</b>
<b>Deducted.</b>						
Wrecked or otherwise lost.....	3	1,417	833	3	215	215
Broken up or unfit for use.....	2	61	42			
Sold to foreigners .....	1	1,141	916	1	329	285
Transferred to United Kingdom.....						
Transferred to British possessions.....	1	988	672	1	224	195
New registers .....	1	632	303	2	52	52
Remeasurement without re-registry.....			9			
<b>Totals .....</b>	<b>8</b>	<b>4,248</b>	<b>2,766</b>	<b>7</b>	<b>820</b>	<b>747</b>

**United States Shipping Notes.**

The U.S. Shipping Board announces that, according to its estimate, the U.S. merchant marine, under its control, comprises 1,468 vessels, aggregating 8,109,958 d.w. tons.

The U.S. Bureau of Navigation reports 200 sailing, steam, gas and unrigged ships of 374,165 gross tons, as built in the U.S. and officially numbered, during September.

The U.S. State Department announced recently that two Swedish experts had sailed for the U.S. to investigate the conditions of the coal market and the possibility of arranging for tonnage to ship 50,000 tons of coal monthly to Sweden.

The North German Lloyd Line's resident director is reported to have stated in New York that that company will not resume its service between Germany and the U.S. as the few steamships it has left are hardly more than 1,000 tons each.

The U.S. Shipping Board's Operations Division announced, early in October, reductions in ocean freight rates averaging approximately 33%, on general and miscellaneous cargoes from Atlantic and Gulf ports to the South American east coast.

The U.S. Shipping Board's chairman has announced that there is no change in the price at which the board's vessels are being held and that none is contemplated. Wood ships are being held at \$90 a d.w. ton, new steel freighters at from \$210, for smaller type, to \$225 per d.w. ton for larger vessels. No immediate sale of passenger steamships is contemplated.

The U.S. Shipping Board's chairman announced recently that the Emergency Fleet Corporation takes the position that following the policy announced by the President, no increase be authorized over Macey scale of wages, which is continued

in effect after Oct. 1, unless a change is authorized after White House conference, and if shipbuilders put any increase into effect it must be understood they do so at their own cost, and that the Emergency Fleet Corporation will not assume or pay any part of such increase.

**Government Control of Ocean Steamships.**

J. A. Armstrong, M.P., for Lambton, Ont., asked the following questions in the House of Commons Oct. 8: "1. What action, if any, has this government taken with a view to carrying out the recommendations, as set forth in the final report of the royal commission on the natural resources, trade and legislation of certain portions of His Majesty's Dominions, as presented to the British Parliament in Mar., 1917, showing that it is not desirable that the operations of the steamship companies carrying passengers and freight between Canada and the United Kingdom should remain longer without some measure of government supervision?"

"2. Does this government intend to take immediate steps to assist the Imperial Government in bringing about government control of the ocean carriers doing business (or, from time to time, doing business), between the United Kingdom and Canada?"

"3. Has the Canadian Government called the Imperial Government's attention to the fact that serious discrimination in freight rates is being practised against products carried from Canada by British shipping interests as compared with similar products carried from other countries?"

Sir Geo. E. Foster replied as follows: "1. The report of the royal commission referred to has been presented to the British Government and the recommendation referred to is now under consideration by that government, and with

others will probably form the subject matter of consideration at the next imperial conference.

"2. The Canadian Government will cooperate with the Imperial Government and the other overseas dominions in considering the question of the supervision and control of ocean tonnage between the different parts of the British Dominions.

"3. The Dominion Government has called the Imperial Government's attention to certain alleged discriminations and injustice in connection with the supervision by the British Ministry of Shipping in the employment of vessels under charter by Canadian shipping interests."

**Sault Ste. Marie Canal Lock Depths**

J. W. LeB. Ross, Superintending Engineer, Sault Ste. Marie Canal, Sault Ste. Marie, Ont., writes as follows: "The article in Canadian Railway and Marine World for October, on page 564, describing the fourth lock at Sault Ste. Marie, Mich., gives the dimensions of the various locks, which are correct in every respect, excepting in the depths of water. You state that the depth in the Canadian lock is 22 ft. in the Poe lock 23 ft., and in the third lock 24.5 ft. These depths do not refer to the same river level. At the river level of 580.6, the level to which all soundings are plotted, the third lock has a depth of 24.5 ft., the Poe lock 18 ft., and the Canadian lock 18.3 ft., the Canadian lock being about 4 in. deeper than the Poe lock. The water level 580.6 is, however, extremely low. The depth in the Canadian lock varies from 18 ft. to 20 ft., and during the present season has varied from 19 ft. to 20 ft."

**French Merchant Marine**—It is reported that France has already added to her tonnage of merchant ships and that several steamship lines have now more ships than in 1914.

**Vessels Registered in Canada During September, 1919.**

In compiling the following lists of vessels registered, steamboats and motor boats, operated by engines of less than 10 n.h.p., are eliminated, as also are sailing vessels of less than 100 tons register.

**STEAM.**

No.	Name	Port of Registry	Where and when built	Length	Breadth	Depth	Gross Tons	Reg. Tons	Engines, H.P.	Engines, H.P.	Owners or managing owners
141006	Busy Bee	Quebec	Lauzon, Que. 1919	78.0	20.0	9.6	115	5	42	Sc.	Davie Shipbuilding and Repairing Co., Lauzon, Que.
141474	Canadian Miller (a)	Montreal	Montreal 1919	400.3	52.3	28.5	5439	3336	266	Sc.	Minister of Marine and Fisheries, Ottawa.
103445	E. H. Bronson	Ottawa	Pembroke, Ont. 1895	140.7	43.7	7.7	273	118	70	Sc.	Upper Ottawa Improvement Co., Ottawa.
140997	General Williams	Toronto	Toronto 1918	251.0	43.6	21.2	2490	1519	147	Sc.	Dominion Shipbuilding Co., Toronto.
141472	H. F. Bronson (a)	Montreal	Kinkston, Ont. 1919	99.5	20.6	10.0	199	35	57	Sc.	Montreal Transportation Co., Montreal.

**SAILING.**

No.	Name	Port of Registry	Rig	Where and when built	Length	Breadth	Depth	Gross Tons	Reg. Tons	Owner or Managing Owner.
141254	Breakers	Yarmouth, N.S.	Schr.	Yarmouth, N.S. 1919	161.1	35.6	13.0	558	514	Scotia Shipbuilding Co., Yarmouth.
141514	Cumberland Queen	Parrsboro, N.S.	"	Diligent River, N.S. 1919	179.0	38.0	13.2	682	634	Joseph N. Pugsley, Parrsboro, N.S.
141446	Dollar VII	Vancouver, B.C.	Scow	Dollarton, B.C. 1919	96.4	36.0	7.3	214	214	Canadian Robert Dollar Co., Vancouver, B.C.
141408	Frances E. Moulton	Lunenburg, N.S.	Schr.	Mahone Bay, N.S. 1919	122.5	38.0	10.3	242	208	J. T. Moulton, Burgeo, Nfld.
141229	G. H. Murray	Weymouth, N.S.	"	Comeauville, N.S. 1919	137.5	32.5	12.4	391	354	J. W. Comeau, et al., Comeauville.
141089	General Jacobs	Shelburne, N.S.	"	Shelburne, N.S. 1919	108.6	25.7	10.3	184	167	G. C. Harris, Grand Bank, Nfld.
141226	Leo LeBlanc	Weymouth, N.S.	"	Bleliveau's Cove, N.S. 1919	143.5	33.1	12.5	425	393	Hankinson Shipping Co., Belliveau's Cove, N.S.
141063	Mary Emerson	Arichat, N.S.	"	Essex, Mass. 1889	41.4	12.9	5.0	13	13	P. Perrier, West Arichat, N.S.
107488	Ossifrage (b)	Halifax, N.S.	Barge	West Bay City, Mich. 1886	153.5	27.8	9.0	235	235	C. Brister, Halifax, N.S.
141407	Team Sixteen	Lunenburg, N.S.	Schr.	Conquerall Bank, N.S. 1919	119.2	26.0	11.0	184	154	P. Templeman, St. John's, Nfld.

(b) Formerly a steamship.

### Mainly About Marine People.

Lady Allan, wife of Sir Montagu Allan, formerly of the Allan Line Steamship Co., has written a boog of her experience throughout the war, in work in connection with hospitals, canteens, etc. She with her three daughters, was a passenger on the s.s. Lusitania when it was torpedoed by the Germans, and two of her daughters were drowned.

William Baird, General Agent, Canadian Pacific Ocean Services Ltd., Liverpool, Eng., was married there recently to Miss E. I. Williams.

The Hon. C. C. Ballantyne, Minister of Marine, and of the Naval Service, was able to leave the Royal Victoria Hospital, Montreal, Oct. 1, and return to his house in Montreal to convalesce.

A. S. Barber, purser, Canadian Pacific Ocean Services' s.s. Empress of Russia, died at Vancouver, B.C., Sept. 24, after a long illness. He had been in the company's service for almost 30 years and had served on all its trans-Pacific vessels.

Capt. Capper is reported to have been appointed Shore Superintendent, Montreal, for Cunard Steamship Co. He has been in the company's service for 34 years and was in command of the s.s. Ansonia when she was torpedoed by the enemy, May 30, 1918, the survivors being in five open boats for 9 days and 10 nights, and travelling 800 miles, landing at Berehaven, Ireland. Two of the boats, carrying 36 people, were lost.

Thos. A. Duff, legal adviser for the Great Lakes Transportation Co., Canadian Dredging Co., Midland Shipbuilding Co., and a number of other companies in which Jas. Playfair, of Midland, Ont., is interested, has been elected Vice President of the Georgian Bay Association.

W. I. Gear, Vice President, Robert Reford Co., and Director of Steel Shipbuilding, Imperial Munitions Board, and Mrs. Gear, closed their summer house at Longueuil, Que., early in October, and returned to Montreal for the winter.

Walter Lambert, A.M.I.N.A., who has been Naval Architect and Assistant Director of Shipbuilding to the Imperial Munitions Board, in connection with the orders for steamships placed in Canada for the British Government, has, owing to the board's shipbuilding programme being practically completed, resumed business as a naval architect, marine surveyor and vessel broker, at 700 Drummond Building, Montreal.

Jas. C. MacGregor, who died at New Glasgow, N.S., towards the end of September was Managing Director of the Eastern Car Co., and a director of the Nova Scotia Steel and Coal Co. He was also associated with the Carmichael Shipping Co., and was the managing owner of the steamships Micmac and Pontiac. As a shipbuilder he built the steel schooner James Williams, stated to be the first steel vessel built in Nova Scotia.

W. T. Payne, Manager for Japan and China, Canadian Pacific Ocean Services, Ltd., Yokohama, Japan, has been invested with the Order of the Sacred Treasure of Japan.

Colin W. Postlethwaite, Harbor Master, Toronto, is convalescing, after a severe accident and subsequent operation.

Capt. W. C. Richardson, a well known steamship owner and manager, died at

Cleveland, Ohio, Oct. 3, aged 79. He was associated with Great Lakes navigation for over 50 years, and was treasurer of the Great Lakes Protective Association and a director and member of the Lake Carriers' Association's executive committee.

J. W. Le B. Ross, Superintending Engineer, Sault Ste. Marie Canal, guided the Prince of Wales, during the latter's visit to the locks, on his recent western tour.

H. G. Thorley, Ontario Passenger Agent International Mercantile Marine Co., entertained Sir Bertram Hayes, D.S.O., R.N.R., captain of the s.s. Olympic, during his visit to Toronto in October.

Lorne C. Webster, President, Webster Steamship Co., has been elected a director of the Bankers Trust Co., Montreal.

R. M. Wolvin, President, Montreal Transportation Co., and Vice President and Managing Director, Halifax Shipyards Ltd., and Mrs. Wolvin, closed their summer house at Dorval, Que., early in October, and returned to Montreal for the winter.

### Exchange Rates Discriminating Against Shipments From Canadian Ports.

London, Eng., cable dispatch, Oct. 15, to Montreal Gazette: Canada is apparently being deprived of the advantage of her higher exchange rate as compared with the United States by the action of the Atlantic shipping companies in charging the New York exchange rates on shipments from Canadian ports. The Canadian shipping lines are under the jurisdiction of the North Atlantic East-bound Freight Conference, which has inserted a new clause in the bills of lading since the war. This clause requires collect freight on Canadian shipments to be paid by the British consignee in sterling computed at New York exchange rates on day of shipment arriving at the discharge depot. Before the war the basis for collect freight was 10% premium of sterling exchange, which gave the pound sterling an equivalent of \$4.89, while the lowest rate of scale so based was 8½%, or \$4.80 to the pound.

There have been numerous complaints by British importers, who hold they should have to pay the Canadian rate of exchange on Canadian shipments, otherwise part of Canada's exchange advantage over the U.S. disappears. I understand the Canadian Government will take up the matter with the steamship lines interested.

### Vancouver Harbor Commission.

F. Carter-Cotton, J. A. Fullerton and S. McClay, who were appointed members of the Vancouver Harbor Commission, Aug. 6, 1913, resigned in June last. On the Minister of Marine's recommendation, their resignations were accepted by order in council passed Sept. 29, and Lieut.-Col. G. H. Kirkpatrick was appointed President of the Commission, the two other members being S. McClay, reappointed, and Maj. A. R. McKenzie. The salary of each is \$2,500 a year. So as to keep in close touch with public opinion in Vancouver and to lessen the possibility of ideas conducive to the port's best interests being overlooked, the commissioners have invited the City Council's harbor committee,

the Board of Trade, North Vancouver City Council's harbor committee, North Vancouver Board of Trade, the Shipping Federation, B.C. Manufacturers' Association, Associated Timber Exporters of B.C., deep sea shipping interests, and the Retail Merchants' Association, to each appoint a committee, of not more than three, to meet the commissioners monthly, so that the views of the committees may be welcomed and sympathetically considered, each committee to have the commissioners' attention separately.

### Wireless Installations Required on Steamships Plying to Great Britain.

Ottawa press dispatch, Oct. 22.—All Canadian ships sailing for ports in the United Kingdom will be obliged in future to carry a wireless installation and wireless operators, in order to conform to the requirements of an act passed by the British Parliament. The Naval Service Department has been informed that this act requires every seagoing British ship registered in the United Kingdom, being a passenger steamship or a ship of 1,600 tons gross tonnage or upward, to equip with a wireless installation. The act comes into effect as soon as the defense of the realm regulations expire, owing to the declaration of peace. Three months after that date any ship sailing at a port in the United Kingdom will come under the conditions of this act, whether it be registered in Great Britain or not.

**False Creek, Vancouver, Sea Wall Suit**—A British Columbia court has given judgment in favor of A. G. Creelman & Co. in their action against the Canadian Northern Pacific Ry., and referred the assessing of damages to the Registrar. The railway company let a contract to plaintiffs to build a sea wall at Main St., on False Creek, Vancouver, as part of its terminal development works. After some progress had been made with the work, Champion and White obtained an injunction against the company and its contractors, which stopped the work. The contractors then claimed \$50,996 for loss of estimated profits, owing to rise in cost of material during the stoppage of the work, and for other damages.

**The Steam Wood Drifter No. 89**, one of a number which were under construction at various yards in Canada at the time of the signing of the armistice, has been sold by Anderson Co., of Canada Ltd., to the Gulf Export and Transportation Co., Beaumont, Texas. It is announced that she has been converted into an oil burner, thus gaining an additional 200 tons of cargo space. She was built by the Davie Shipbuilding and Repairing Co., Lauzon, Que., and was completed during the summer.

**Montreal Transportation Co.**—There have been some changes in officers recently, the present organization being as follows: President, R. M. Wolvin; Vice President, L. L. Henderson; Managing Director, T. R. Enderby; Secretary, F. T. Cuttle.

Canadian Pacific Ocean Services Ltd. general agents from various points in Canada and the United States, met at Montreal at the end of September, under the chairmanship of C. E. Benjamin, Passenger Traffic Manager, to discuss passenger matters generally. Afterwards they went to Quebec to meet the s.s. Empress of France.

## Wreck Commissioner's Enquiries and Judgments.

Enquiries have been held and judgments delivered in the following casualties:

### War Witch—Gallia Collision.

Held at Sydney, N.S., Aug. 11, before Capt. L. A. Demers, Dominion Wreck Commissioner, assisted by Capt. A. J. Morrison and O. Lewis as nautical assessors. The court found that the evidence was contradictory as regards the witnesses of the War Witch, but unanimously by the survivors of the Gallia, and it found that the master of the War Witch, Capt. W. P. Bennett, was in default, first, for retiring to his room and falling asleep when the steady sounding of the fog horn was necessarily attended to, and not issuing instructions to reduce the speed under the circumstances; second, for grave lack of judgment in not bringing his vessel to a full stop instead of continuing on a starboard helm, his reason for not doing so that he feared to come in contact with the Gallia being considered worthless; third, for his failure to lower a boat at once to search for and render aid to victims; which was a flagrant violation of article 29. For these reasons the court cancelled his certificate, but recommended that he be issued a mate's certificate to permit him to earn a living.

The second mate, C. Carroll, was found in default for failing to call the master when the fog became dense, and for violating instructions, which he admitted he had received, thus primarily contributing to the collision, and his certificate as second mate was suspended for one year from Aug. 12.

The court commented on the situation which existed in the engine room, one engineer alone being on duty, without any assistants. When the order "stop" was given, the engineer was away from his post, being on the top platform oiling the machinery and necessarily some time elapsed before he could return to his place and carry out the order from the bridge. The lookout, in the smooth water which existed at the time of the casualty, it being practically calm with no sea or wind, should have been on the fore-castle head or in the crow'snest, and not behind a shelter on the bridge. Regarding the Gallia, the evidence of the survivors, being without contradiction, was accepted by the court and she had the right of way, article 20 stating that a steamship is to keep clear of a sailing vessel. The court therefore did not hold the Gallia responsible, for any wrong action, and placed the blame for the casualty on the War Witch.

### Sinking of the s.s. Captain Dan.

Held at Ottawa, Aug. 30, before Capt. L. A. Demers, Dominion Wreck Commissioner, assisted by Capt. C. Lapierre and C. J. Stuart as nautical assessors, into the collision of the s.s. Captain Dan with a wharf at the Louise Embankment, Quebec, Aug. 25, and her subsequent sinking. The court found that the evidence was very contradictory in many respects. Pilot Langlois, knowing that an eddy existed near the breakwater, and the channel being clear of all obstacles, did not exercise proper judgment in bringing his vessel so close to the breakwater. He appeared to have shown marked indifference in issuing orders for courses, and he attempted to mislead the court by subterfuge; for all of which he was found in default and his license

suspended for four months from Aug. 25, to Dec. 24. The court did not hold the master, Capt. J. B. Gamache, responsible for the collision and eventual sinking of the vessel, but it held that he failed to give the first peremptory command to clear the boats and attend to the female members of his crew, after he had been told of the seriousness of the damage, and knowing the condition of his vessel and her construction. When he had ordered the pilot to beach the vessel at the nearest convenient point, he should, in the interval between the collision and the sinking, have issued instructions for the safety of the crew. The officers on the vessel were inexperienced, no lookout was kept and in the confusion, which existed, any order the master may have given, may not have been heard. The court therefore found him in default for lack of judgment, and suspended his certificate for two months from Aug. 25 to Oct. 24. The mate was severely reprimanded, the court being lenient on account of his inexperience. It also held that the loss of life which occurred was, under the circumstances, accidental, and for which no one could be held at fault.

### Stranding of the s.s. Admiral Hastings.

Held at Sydney, N.S., Sept. 5, before Capt. L. A. Demers, Dominion Wreck Commissioner, assisted by Capt. A. J. Morrison and O. C. Lewis as nautical assessors, into the causes of the stranding of the s.s. Admiral Hastings at Bagot's Bluff, Anticosti Island, Aug. 22. The court found that the master, Capt. F. Dudley, erred in judgment by over confidence as to his courses. His compasses were found to be affected at Fame Point and he was already aware of the uncertainty of the currents. His long and successful career, his straightforward statement, and his success in freeing the vessel, caused the court to conclude that though he erred in judgment, it was not in a culpable manner, as it is doubtful if he had cast the lead before he did that it would have indicated his approach to Anticosti, hence the court did not deal with his certificate, but cautioned him to be more careful in future, and avoid over confidence in his calculations. The court advised the chief officer, J. G. Clemens and all officers who have to keep watch, to make themselves acquainted with the conditions in the localities they are navigating, and indicate by that their desire to obtain knowledge, and to be useful to the master when an emergency arises. The evidence of the third officer, C. R. F. Milne, as to the sounding was misleading. While the sounding had not much value at the time it was taken, it would have had a more serious aspect if the vessel had been in a different situation, but as he is a young man he was advised to be more careful in executing orders he may receive in future.

### Stranding of the s.s. Glenholme.

Held at St. John, N.B., Sept. 9, into the stranding of the s.s. Glenholme, Aug. 22, at Goose Tongue Rock, Spencers Island, Bay of Fundy, before Capt. L. A. Demers, Dominion Wreck Commissioner, assisted by Capt. A. J. Mulcahy and H. C. Barcham, as nautical assessors. The court found that the master, Capt. H. W. Moore, erred gravely in judgment in being over confident of the position of his vessel, and in taking for granted that the bearing of the sound

of the fog horn at Cape d'Or was as he anticipated, without assuring himself of his vessel's position. The passengers on board were transferred to the boats promptly, no lives being lost. In view of these facts, the court did not deal with his certificate but reprimanded him very severely for not adopting other precautionary measures to assure himself of his vessel's position. The court condemned the system which permits a man holding a certificate as master of a tug boat to act as master of a vessel carrying passengers. An examination of the customs certificate shows that the vessel was only cleared for freight, though as she was carrying passengers at the time, she is to all intents and purposes a passenger and freight vessel, and is subsidized by the Dominion Government to carry passengers. The court also commented on the fact of the master being alone to attend to navigation and that there was only one engineer to perform all the engineering operations necessary in the coasting trade.

### Grounding of s.s. Huronic.

Held at Sarnia, Ont., Sept. 17, into the cause of the grounding of the Northern Navigation Co.'s s.s. Huronic at Angus Island, off Isle Royale, Lake Superior, Aug. 15, during a dense fog, before Capt. L. A. Demers, Dominion Wreck Commissioner, assisted by Capt. P. McIntyre and B. Garvie as nautical assessors. The court found that the master, Capt. E. Walkinshaw, erred in judgment in altering his course after having run the distance which he had usually made under better and more satisfactory conditions. In view of the fact that the boilers had been reported as having lost their efficiency for the time being, he should, with such knowledge, have run on the course a little longer, which would have brought him nearer to Thunder Cape and in close proximity to the sound of the fog horn. The court considered there were extenuating circumstances, which caused it to exercise leniency and it therefore suspended his certificate for one month, from Sept. 17.

### Explosion on s.s. Cape Breton.

Held at Sydney, N.S., Sept. 25, before Capt. L. A. Demers, Dominion Wreck Commissioner, assisted by C. M. Crockett and G. Symington, as engineer assessors, into cause of explosion of the s.s. Cape Breton's boiler on Apr. 5, when the chief and second engineers, donkeyman and two firemen were killed, while the vessel was off Cape Spear, near St. John's, Nfld. The s.s. Cape Breton, owned by Dominion Coal Co., is a steel vessel of 1,764 tons gross, 1,109 tons net, 258 ft. long, 37 ft. beam, and at the time was drawing 8 ft. forward and 13½ ft. aft on a full speed of 9 knots an hour. She is equipped with single screw triple expansion engines and carried a crew of 26.

The master, Capt. S. McDonald, stated that he had been four years in command of the vessel and had never had any complaint from the engineer as to the boilers. The vessel had been examined and reclassified for one year on Mar. 18, 1918. He sailed from Louisburg, N.S., Mar. 12, for St. John's, Nfld., and was delayed there through holidays and ice, being unable to return before the expiration of the yearly classification. He left St. John's, Apr. 5, and after about three hours out, the second engineer,

through the chief engineer, reported a small leak in the boiler. After investigation, and consultation with the chief engineer, the vessel's head was turned towards St. John's, but the chief engineer did not agree with the master's suggestion that he should steam on one boiler alone, as there was but a little distance to cover. Shortly after, the master heard a noise, which shook the vessel and caused an escape of steam. The second officer was sent to the engine room and reported that the boiler had exploded, the first and second engineers being scalded. Orders were then issued to render the assistance needed and to signal for help and a doctor. The first tug arrived without a doctor, and the injured men were placed on board and sent to St. John's.

J. A. Campbell, third engineer, stated that he, with the second engineer, investigated the leak, after which he went to his room, it not being his watch. He had never noticed that anything was wrong and while in harbor, 140 lb. of steam was kept while the fires were banked. The working pressure for a speed of 9 knots was 150 lb.

D. J. McAlpin, Superintending Engineer, Dominion Coal Co., explained that the patch which failed was laid on in 1915, being single riveted. He produced plans of repairs which were to be made, showing that the plate which was to replace the patch which caused the mishap was to be double riveted. The company's vessels were overhauled annually, and the officers were instructed to submit their requisitions, which were always granted. He gave the dimensions and thickness of the patch and of the boiler and stated that very little diminution of thickness was seen on the old parts of the boiler.

C. Cook, assistant to Superintending Engineer, Dominion Coal Co., stated that the patch was placed in 1912, and he had no knowledge of a leak prior to or since 1915.

R. Patterson, chief engineer, Dominion Coal Co.'s s.s. Coban, stated that he had never had any requisition refused during the time he had been with the company.

D. J. Murray, Dominion Government Boiler Inspector, stated that he had inspected the s.s. Cape Breton's boilers twice, the last time in Mar., 1918. He had inspected the boiler under a pressure of 225 lb., lasting 15 minutes. This was an external inspection, and there were no signs of a leak, or weakness, prior to placing the test. He relied, to a certain extent, on the examination made by the other inspectors, and stated that single riveting as seen on the patch was safe.

The court's finding is summarized as follows: Owing to the death of the chief and second engineers, the court is deprived of most important data regarding the working of the defective boiler, prior to leaving St. John's. Explanation as to the inspection of the leak, when examined after the fires were drawn, would have helped to arrive at more tangible results and conclusions. The third engineer's evidence does not throw much light on the matter, beyond demonstrating that he was not a very observant engineer, and awaited orders, which he appears to have fulfilled without seeking the reason for his own information. It is proved that the owners have attended to requisitions by masters and engineers, and the logs show that the boilers, machinery, and hull, underwent many repairs and received much attention. No correspondence exists to show that any

defect had been found in the boilers, and the engineer's log was well kept, and no erasure or interlinings are to be detected. The master's suggestion to work the vessel with one boiler was a very wise one, but he could not order it to be done, as the engineer was the one more competent to accept or refuse the suggestion. Had the engineer adopted the suggestion, it is possible, even certain, that the mishap would not have occurred. No criminal intent, neglect, or indifference can be launched against the chief engineer, the over confidence, of which he was a victim, being due to the fact that the leak appeared to him to be a small matter. The court, however, is of the opinion that, upon the appearance of that defect, in view of the age of the boilers and the frequent patching, they had undergone, there was but one thing to do and that is what the master suggested. The single riveting was a weak point, and it is recognized as such, because it is planned to double rivet it. The court found the inspection by the Dominion Government inspector as insufficient, it being of the opinion that more time should have been devoted to it, and a more minute interior inspection and a test by successive taps of the hammer in patch work should be given. The court therefore found that the owning company had done all that was demanded by the respective employes, and cannot therefore be blamed for the explosion and its fatal results. It has been ascertained that the chief engineer was a painstaking and competent man and while the court attached no blame to him, he failed to realize the importance of the leak, and thought it was not obligatory of him to accept the master's suggestion, had he done so the casualty would not have occurred. No blame is attached to the masters or officers of the vessel who had done all that was expected of them in the operation of the vessel and in caring for the victims of the explosion. The Dominion Government inspector of boilers is also exonerated from blame or neglect, but the court recommends that the inspection of boilers during tests, be made more thorough, both as to interior and exterior, and that tapping be more general, especially in vicinity of patches, also that borings be made in those localities, and in places where moistened material may accumulate and cause rapid and excessive corrosion. The court expressed the opinion that the casualty was due entirely to unforeseen circumstances, therefore accidental, but preventable if the master's suggestion had been adopted.

#### Stranding of the s.s. Chelston.

Held at Montreal, Oct. 11, before Capt. L. A. Demers, Dominion Wreck Commissioner, assisted by Capt. C. Lapierre and C. J. Stuart, as nautical assessors, into the cause of the stranding of the British s.s. Chelston, at St. Pauls Island, in the Gulf of St. Lawrence, Oct. 9. The court found that the master, Capt. A. M. Fotheringhame, erred gravely in judgment, that he had astarboarded the helm, and also when, upon coming on deck and finding the vessel had run her distance, had failed to stop and take soundings. The court suspended his certificate for 3 months, from Oct. 9, 1919, to Jan. 8, 1920. The first officer was exonerated from all blame. Since the enquiry was concluded, the ship, which was wrecked in an exposed condition, and was abandoned after several attempts to salvage her, has broken up and become a total loss.

#### Welland Ship Canal Construction.

We were officially advised Oct. 17, that instructions had been issued for the discontinuance of work on sections 2 and 3 of the Welland Ship Canal. During October deputations waited on the Minister of Railways and Canals with a view to obtaining a cancellation of these orders, and in reply the Minister is reported to have stated that he would lay the matter before the government for final decision.

Sec. 2 covers the work from bridge 2 to bridge 5, about 4½ miles, including locks 2 and 3. This contract was awarded to Baldry, Yerburch and Hutchinson Ltd., Dec. 31, 1913 for completion by Apr. 1, 1917.

Sec. 3 is from bridge 5 to about half way between bridges 9 and 10, and includes the heaviest portion of the whole route, the erection of twin guard gates at Thorold, the single lock 7, a short stretch of canal below lock 7, and 3 twin locks, 6, 5 and 4 in flight, one flight for downbound vessels and one for upbound vessels, overcoming a descent of 139½ ft. The contract was awarded to O'Brien and Doheny, Oct. 4, 1913, for completion by Apr. 1, 1917.

Comparatively good progress was made with the work, despite troubles due to labor disputes, etc., and the work was continued for some time after the outbreak of war. In the early part of 1917, it was decided that the entire work should be suspended until the close of the war, and after clearing up some minor details, the work ceased May 2, over the whole route. It was estimated then, that, taking the entire work, it was about 50% completed, sec. 3 not being in so forward a condition as the others. On the cessation of hostilities, the government felt, that on account of demobilization, it would be necessary to go on with the work in order to provide employment for the large number of men released from military duty. Arrangements were therefore made with the old contractors to resume work on a cost plus 8% basis, such work to go on only from month to month, and not to proceed beyond Dec. 31, 1919, so that no misunderstanding could arise. It was estimated that on sec. 2, \$600,000 would be expended during that period, and on sec. 3, \$700,000, and an amount to cover such expenditures, and others on other sections, was included in the estimates for the current year.

Lake Ports Navigation Co. Ltd., has been incorporated under the Dominion Companies Act, with \$50,000 authorized capital and office at Sarnia, Ont., to carry on business as common carriers, to own and operate steam and other vessels, and to build docks, wharves, warehouses and other terminal facilities. The incorporators are: F. G. Crosby, F. P. Walsh, W. F. Drohan, Milwaukee, Wis.; W. J. Barber, A. S. Burnham, C. Judge and M. E. Fischer, Sarnia.

Murray Bay-Tadouac Steamship Service—In answer to a question in the House of Commons recently, as to whether it was the government's intention to establish a new line of steamships, in conjunction with the Quebec and Cap a l'Aigle, St. Fidele, Simeon Bay, Saguenay Ry., between Murray Bay, Ste. Catharines, and Tadouac on the north shore of the River St. Lawrence, the Minister of Marine stated that it was the Marine Department's intention, if conditions would permit, to operate the C. G. S. Champlain on this route, giving a tri-weekly service from Nov. 1.

## Telegraph, Telephone and Cable Matters.

## The Telegraph Profession.

By H. Hulatt, Manager of Telegraphs, Grand Trunk Ry. and Grand Trunk Pacific Ry., Montreal,

H. Hulatt, Manager, Telegraphs, G.T.R. and G.T.P.R., made an inspection trip to the Pacific coast at Prince Rupert recently.

A. B. Smith, formerly Manager, Telegraphs, G.T.R. and G.T.P.R., who retired in 1915, on account of ill health, spent part of the summer at Old Orchard, Maine.

The United States Navy Department has removed restrictions on amateur radio stations. Restrictions on stations handling commercial traffic will remain in effect until the President proclaims that a state of peace exists.

The Marconi Wireless Telegraph Co.'s station at Sable Island, which was destroyed by fire a short time ago, is to be rebuilt. Material was expected to be on the spot by the end of October. It is stated that the new station will be considerably larger than the old one, and that the telegraph equipment will be of larger power, and with a much greater radius.

A board of conciliation was appointed recently to investigate matters in dispute between the Marconi Wireless Telegraph Co. of Canada and its operators on the Great Lakes; Judge F. S. MacLennan, Montreal, being chairman; B. Rose, Montreal, representing the company, and T. Taylor, the employes. During the enquiry, the company's representatives stated that it is obliged to operate these stations under a contract entered into with the Dominion Government in 1911; that there is a deficit on the service each year, owing to large increases in cost of operation and that it was therefore unable to accede to the demands made, the justice of which, under existing conditions, was admitted.

**German Mercantile Marine**—It is reported that the German Government, in order to lay the foundation for a new merchant marine fleet, has decided to distribute \$62,500,000 indemnity funds, to steamship lines, such as Hamburg American and North German Lloyd, which lost vessels through seizure during the war.

**Dry Dock at Sydney, N.S.**—We are officially advised that the application for a subsidy for the construction of a dry dock at Sydney, N.S., under the Dry Dock Subsidies Act, as mentioned in our last issue, was made by the Sydney Dry Dock and Engineering Co., which was organized for that purpose by the Sydney Foundry and Machine Works, Ltd.

The s.s. **Frontenac**, which has been bought from U. S. owners by Davie Shipbuilding Co., Lauzon, Que., has had her name changed to **Vaudrueil**. She was owned formerly by Cleveland Cliffs Iron Co., Cleveland, Ohio, was built at Cleveland in 1889 and fitted with a new steel upper deck in 1903. She is of steel, of the spar deck type, with double watertight bottom for ballast, 2 watertight and 2 non watertight bulkheads, steam pump wells and steel boiler house; hatches spaced 24 ft. centers. Her dimensions are: length, b.p., 270 ft.; breadth, moulded, 40 ft.; depth, moulded, 24 ft.; tonnage, 2,003 gross; 1,676 net. She is equipped with triple expansion engines with cylinders 20, 31 and 52 in. diam. by 40 in. stroke, 850 i.h.p., at 75 r.p.m., and supplied with steam under forced draft by 2 Scotch boilers 11½ x 11½ ft. at 180 lbs.

I trust my preceding article has convinced some, if not all, ambitious readers, and particularly those employed in railway service, of not only the desirability, but the absolute necessity of taking steps to improve, what to many of us is our only capital, their mental equipment.

The whole commercial and industrial field, and in this description is included the telegraph profession is and always has been more or less a field of battle, i.e., competition, and incidentally the fight is getting more strenuous every year. Never in history was the phrase, "the survival of the fittest," more true than it is today. We compete against others for promotion in our own organizations; we compete against other organizations in the same lines as ourselves for business. To eliminate competition, would result in the disappearance of half the joy of living, it is fighting in a straight, square way which brings joy to the red-blooded man, and incidentally assists him to develop and know himself. If we are going to fight a crowd our first thought is to secure some suitable weapon. The great war just ended was won, not only by the pluck of the men engaged, but, by the wonderful organization and system evolved.

The majority of us have only one thing in life of primary importance personally to sell; that is our services, and in order to obtain a good price for them, we have to prove that we have the necessary weapons to use in the battle of competition; in the main, good, sound judgment founded on experience and education, and loyalty which, of necessity, includes honesty. Also we must exercise what is commonly called push, or pep.

Before proceeding further to make suggestions as to how we can improve ourselves educationally, and still carry on earning our bread and butter, I would like to emphasize that I have absolutely no use for a blue stocking or mollycoddle, and am very strongly of the opinion that "all work and no play makes Jack a dull boy"; it is quite possible for a young man to spend an hour or so a day studying, and yet enjoy the outdoor and social recreations essential to the retention of good health and spirits. Without good health you cannot have pep. This matter of education is to my mind not only personal to the individual, but a responsibility on the part of all, particularly those having charge of men.

Officers of railway telegraph departments should set their men an example, by themselves studying, and encouraging their subordinates to do the same. I feel that we who are privileged to be executives, and have more or less the destinies of large numbers of men in our hands, have a very great and heavy responsibility in this connection. The more we study, the more we realize how much there is which we ought to know, which we do not know. An executive should make sure that his immediate assistants are studying, and they in turn should encourage the men farther down the line to do the same. Promotion should be dependent not only upon whether or not a man has seniority or has adequately filled the position he has occupied, but also be based on whether or not the man has, by broad study, qualified for even a higher position than the one vacant.

Executives and subordinate officers must realize that they are not the only

ones in their organization blessed with grey matter. Many a pearl has come from an oyster shell of quite ordinary appearance, and it is the pearls that are needed and that count in business life. Having this in mind I would urge in organizations where it has not yet been practised, that a systematic programme of conventions or meetings of officers and employes, by means of which personal contact can be established, matters relating to business efficiency thrashed out, and the benefits of education discussed, should be organized. This plan has been carried out in my own organization, to the benefit of subordinate officials and employes; most decidedly to my own benefit, and has resulted in increased efficiency all round.

A valuable educational agency available to ourselves and our men is undoubtedly the American Telegraph and Telephone Division Railroad Association, particularly in connection with the reports of the various committees. To my mind such reports should be distributed to officers and employes of the telegraph departments for their consideration and study, and discussion at departmental meetings. The representative members of roads attending conventions of the division would then be much better equipped, on the basis that two intellects are better than one, to discuss matters coming before the convention, thereby benefitting all attending such conventions. Subordinate officials and employes who have plainly indicated an interest in developing themselves, should not only be encouraged by promotion, but also by being sent to conventions of the division, and if qualified nominated to serve on committees.

To the young man entering telegraph service I would say: look ahead, enjoy life, but at the same time equip yourself for the days to come, develop initiative, assume responsibility without question, take up elementary electricity, mathematics, etc., ask all the questions you can, have some ambition other than thumping a key all your life, as you rise in your profession, and incidentally increase your education, dive into books of philosophy, science, history, economics, and kindred subjects, all of which will tend to make you a bigger, broader man, in fact, an efficient executive, which should be your great ambition.—Nil desperandum. Telegraph and Telephone Age.

**Port Colborne Elevator**—We are officially advised that C. D. Howe & Co., elevator engineers, Port Arthur, Ont., have been given charge of the repairs to the Dominion Government grain elevator at Port Colborne, Ont., under the supervision of a board of engineers of which C. N. Monsarrat, Consulting Engineer to the government at Ottawa, is Chairman. The contract for the demolition of the wrecked structural steel and debris has been let to the Dominion Bridge Co., which has already made good progress with the work. It is likely that the general repair work of replacing of reinforced concrete walls, floors, etc., and the installation of new machinery will be handled on force account basis. It is expected that the elevator will be ready to handle grain by the opening of navigation next spring.

## Telegraph Companies Responsibility for Failure to Transmit Messages.

Complaint of the Canadian Manufacturers' Association, per J. E. Walsh, Toronto, Ont., against the Board of Railway Commissioners' general order 162, and the matter of relieving telegraph companies from responsibility for failure to transmit messages. File 136224.

Commissioner Boyce of the Board of Railway Commissioners, gave the following judgment Oct. 7: Complaint is made by the Canadian Manufacturers' Association that the conditions of contract with telegraph companies impose no obligations or penalties for failure to transmit messages received by the company for transmission, and provision is sought (by amendment to the conditions of traffic sanctioned by order 162, Mar. 30, 1916), for the imposition of penalties for non delivery in such cases as are due to gross negligence of the company, even though the message is not repeated.

The whole wide question of the liabilities attaching to telegraph companies, involving the point complained of, was fully considered by the board upon the application which resulted in order 162. The question was further, incidentally, considered by the board on the application of the Great North Western Telegraph Co., the C.P.R. Co.'s Telegraph, and the Grand Trunk Pacific Telegraph Co., for an order approving conditions varying those approved by order 162, the object of such application being to vary the conditions so sanctioned in a manner which would more fully relieve the companies from liability, to sender or addressee, whether from negligence or otherwise, in respect of receipt, transmission, and delivery of messages.

The application last referred to, was heard at Ottawa April 17, 1917, and, following a considered judgment of the then Chief Commissioner, dated July 14, 1917, order 26,378 was passed July 26, 1917, dismissing the application, but reserving to the applicants leave to apply for a stated case, in writing, for the opinion of the Supreme Court of Canada, upon the questions of law involved in the application.

A stated case has never been presented to the Supreme Court—has not been settled by the board—but a draft case has been submitted to the applicants, who have not yet concurred in it, although by written memorandum they suggested that the case to be submitted for the opinion of the Supreme Court of Canada, should contain the following questions, viz.:

"1. Was the board right in holding that a condition in the contract purporting to limit the company's liability to the addressee of a telegram is, under the law of the Province of Quebec, ineffectual for that purpose?"

"2. Has the board power by regulation—independently of the contract—to limit the liability of the company to the addressee of a telegram?"

"3. Would such a regulation be effectual for such purpose under the law of the Province of Quebec?"

In the ex-Chief Commissioner's judgment, upon the application above referred to, the law is fully discussed with regard to the applicability of the Quebec Civil Code of article 1,053, as distinguishing liability affecting the transmission and delivery of telegraph mes-

sages from that settled by legal decisions of our courts, and of the English courts, referred to in the ex-Chief Commissioner's judgment. It is open to some doubt, as the ex-Chief Commissioner concludes, as to whether (at any rate with regard to the conditions discussed in the previous application), the Quebec Civil Code referred to may not operate, or intervene, in a special manner to regulate and refine liability upon these telegraph messages as between the company and the sender (possibly and addressee) in a manner different from that laid down by the courts, and, for the purpose of settling this important question and looking towards obtaining a decision which will secure uniformity, leave was reserved to state the case referred to for the opinion of the Supreme Court. Pending the submission of such a case and the answers of the Supreme Court thereupon, there must still remain the doubts expressed by the ex-Chief Commissioner with regard to the law, especially as regards the Province of Quebec. In his judgment, above referred to, the ex-Chief Commissioner said: "In so far as the contracts under which telegrams are dispatched are concerned, it was admitted at the hearing that the contract settled by Mr. Scott throws a greater liability on the telegraph company, and of course, increased the liability over that which previously existed in Canada."

My view is that, the board having settled conditions of transmission which contain, I think, reasonable and adequate provision to guard against errors and to insure correctness in the transmission and delivery of messages, and in view of the questions of law which are raised and which are standing for the opinion of the Supreme Court of Canada, and which, inferentially at least, affect the questions which we are now asked to decide, I think it would be extremely inadvisable for the board to go any further in the sanctioning of additional conditions. I would dismiss the complaint.

The judgment was concurred in by the Chief Commissioner, Assistant Chief Commissioner and Deputy Chief Commissioner.

## Enquiry Re Telegraph Rate Increases.

In connection with the application by telegraph companies for increased rates of tolls, which is before the Board of Railway Commissioners, the board issued a statement Oct. 24, as follows: "The Board of Railway Commissioners has decided to hold an extended series of sittings over different portions of Canada for the purpose of obtaining the views of the public on the application of the telegraph companies for an increase of practically 20% in the present telegraph rates. The board will sit in Ottawa on Nov. 11 and 12; at which sittings representatives will be heard from the Quebec and Ontario. They will be in Winnipeg on Nov. 17 and 18; at Vancouver, Nov. 22 and 24, and at Victoria on Nov. 25. On the return trip, sittings will be held at different points in the western provinces, the exact dates of which will be made public within a very short time. It is also their intention to proceed to the Maritime Provinces after returning from the west, where sittings will be held at one or more points, of which notice will be given. As the question is of very great importance to the business

interests of the whole country, it is to be hoped that the boards of trade and the people generally, will avail themselves of this opportunity of expressing their views at the time and places above mentioned."

## Among the Express Companies.

The Canadian National Ex. Co. has opened offices at Ardill, Sask., and Darwell, Alta.

H. H. Carr, heretofore route agent, Dominion Express Co., Truro, N.S., has been appointed its agent there.

The Canadian National Ex. Co. has closed its offices at Cap Rouge, and Neuville, Que., Pine Orchard, Ont., and Hepburn, Sask.

Lieut.-Col. T. R. McKenzie, formerly of Richmond, Que., has been appointed route agent, Dominion Ex. Co., Truro, N.S., vice H. H. Carr, transferred.

The Central Canada Express Co.'s bylaw, authorizing C. Hope, Assistant Superintendent, to issue tariffs of tolls, has been approved by the Board of Railway Commissioners.

The Canadian Ex. Co. is reported from London, Eng., to have entered into an arrangement with the Handley-Page Air Service for the carriage of millinery between Paris and London, for quick transportation to Canada.

The Canadian Association of Ice Cream Manufacturers' application for a reduction in express classification of ice cream from 1st class to 2nd class, has been dismissed by the Board of Railway Commissioners.

The board of conciliation, appointed recently to deal with the differences between the Canadian National Express Co., and its employes at Winnipeg, consists of Mr. Justice Metcalfe, Chairman; W. T. Sweatman, representing the company, and F. Bancroft, Toronto, on behalf of the employes.

The Canadian National Ex. Co.'s employes have been awarded overtime payments dating from Sept. 1, 1918, to the date when the 8-hour day was put into effect. The board of conciliation award was unanimous except as to the reinstatement of J. H. Watson, chairman of the union at Winnipeg, who was discharged after the recent sympathetic strike there.

A Winnipeg press dispatch stated recently that the Manager of the Winnipeg Board of Trade's Transportation Department had been advised by the Board of Railway Commissioners that demurrage charges on car loads of goods left standing on tracks would be reduced shortly from \$25 a day after the first 24 hours to \$15 a day and that where a refrigerator or baggage car is used the charge would be \$10. The demurrage rates referred to are evidently those to be charged by express companies from Nov. 17, the companies having adopted the Board of Railway Commissioners' Chief Traffic Officer's recommendation with respect thereto, without the necessity of any order being made. The express companies tariff in regard to this will read as follows: "Detention charges. On cars held by shipper or consignee for loading, unloading, forwarding directions or for any other purpose, 24 hours (one day) free time shall be allowed. When for any reason for which the express company or the railway company, is not responsible, cars in express service are held

beyond the said free time for loading or after loading, or for unloading following notice of arrival (if necessary) or placement, the following tolls shall be charged for each day of 24 hours, or part thereof, Sundays and legal holidays to be excluded in computing time: Stable cars, when used as such, \$25; other express cars (including dismantled stable cars), \$15; freight cars used for express goods, \$10."

The American Railway Express Co. has issued the following notice: New express packing rules, similar to those required for freight movement on railways, will go into effect on Dec. 10, and express shippers are requested to prepare themselves for the new standards. The new packing requirements, which were approved recently by the United States Railroad Administration, were formulated to provide additional safeguards for merchandise sent by express. Heretofore, shippers have been using all sorts of containers for express packages, but the new rules are expected to make the regulations uniform and thus provide business concerns with an even more reliable and speedy service. Preparations are being made at local offices of the American Railway Express Co., which is the government's agent in handling the express business of the entire country, to put the new rules into effect and to require a strict adherence to them thereafter. The express officials expect that in this way shippers will be induced to pay greater attention to their packing methods and to turn their business over to the carrier substantially packed and clearly marked, so that, with reasonable care on the part of expressmen, all traffic can be handled rapidly and with fewer chances of loss or damage in transit. The new rules will not permit the use of paper wrapping for packages over 25 lb., nor ordinary paper boxes, wrapped or unwrapped, when the weight of the package is over that limit. For shipments over 25 lb., wooden containers, or containers of fibreboard, pulpboard or corrugated strawboard material are required. The cartons must be made of materials of specified "test strengths," similar to those required for the freight service, and the containers must bear the stamp of the manufacturers, certifying

that the material used is of strength required for the weight of the shipment carried in it, as called for in the rules. The express regulations, though modeled on those for freight movement, permit a wider latitude in the size of the carton used, and carry a certain number of exceptions. Shippers who wish to acquaint themselves with the new express regulations are requested to study Supplement 5 to Express Classification 26, in which these rules are embodied, and copies of which may be secured at any express office.

### 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.

**Canada Iron Foundries Ltd.**—Supplementary letters patent have been issued under the Dominion Companies Act, authorizing the company to decrease its capital stock from \$4,500,000 to \$4,300,000, by the cancellation of 20,000 unissued common shares; and to increase its capital stock to \$6,300,000 by the issue of 200,000 preferred shares.

**Canadian Westinghouse Co.**, Hamilton, Ont.—F. A. Merrick, Vice President and General Manager, has resigned the position of General Manager, retaining the office of Vice President, and has received an appointment from the Westinghouse Electric International Co., London, Eng. N. S. Braden, heretofore Manager of Sales, has been elected Third Vice President. H. M. Bostwick, heretofore Assistant Manager of Sales, has been appointed Manager of Sales. H. U. Hart, heretofore Chief Engineer, has been appointed General Manager and Chief Engineer. C. A. Price has been appointed Assistant Chief Engineer.

**Davis-Bournonville Co.**, Jersey City, N.J., has issued a circular describing and illustrating decarbonizing outfit, for

turning out carbon deposits in gas engine cylinders.

**Edison Storage Battery Co.**, Orange, N.J., has started publication of a house organ, "The Grid," its stated object being "to disseminate some sense, and a little nonsense, among users of storage batteries."

**Locomotive Superheater Co.**, 30 Church St., New York, N.Y., has issued the following bulletins: no. 5, "A dependable pyrometer for locomotive service;" no. 6, "The most from superheating;" no. 7, "U.S.R.A. standard locomotives;" no. 8, "Superheater maintenance and operation."

**Lyman Tube & Supply Co.**, Montreal, Frank D. Lyman, Managing Director, died somewhat suddenly in Montreal, Oct. 1, aged 42. For some 10 years he managed John Millen & Sons' railway department in Montreal, and then founded the Lyman Tube & Supply Co., which is Canadian agent for the Electric Service Supplies Co., Philadelphia; Canadian distributors, National Tube Co., and also represents a number of other manufacturers specializing in railway supplies.

**Railway & Power Engineering Corporation**, Toronto, agents for Heywood Bros. and Wakefield Co., Wakefield, Mass., report having received an order for seats for the 20 first class cars which the Canadian National Rys. are having built by Canadian Car & Foundry Co.

**Whiting Foundry Equipment Co.**, Harvey, Ill., has issued the following catalogues: no. 146 "Cupolas and cupola charging machine;" no. 147, "Ladles;" no. 148, "Core oven equipment;" no. 149, "Air hoists and elevators;" no. 150, "Side-blow steel converter."

**J. H. Williams & Co.**, Brooklyn and Buffalo, N.Y., makers of superior drop-forgings and drop forged tools, have issued a catalogue of 160 pages, 4 x 6 in., illustrating and describing their standard stock specialties, including several lines of new goods, viz.: Agrippa turning tool holders, set screw pattern, Agrippa boring tool posts, Vulcan forged cutter tool holders, and several new assortments or sets of drop forged wrenches. The books contains, also, a description of the drop forging process in simple, non technical style.

## The National Shipbuilding Co., Limited

Goderich, Ontario

*Marine Engines and Boilers and Iron Foundry*

Special attention given to all kinds of Hull and Machinery Repairs on Ships laying up in the Port of Goderich for the winter months

## For Sale and Classified Advertising

Under this heading Canadian Railway and Marine World will place advertisements for Positions Wanted, positions Vacant, Equipment for Sale, Tenders Wanted, Dividend, Annual Meetings, Legal Notices, etc.

### ADVERTISING RATES.

Rates for advertisements set in uniform style in six point under  
Positions Wanted and Positions Vacant, 3c per word.  
Equipment for Sale advertisements, 4c per word.  
Allow five words where replies are to be sent to a box number. Minimum order—\$1.  
Rates under other headings and for display advertisements on application.