

Canadian Railway and Marine World

August, 1919

The First Battalion Canadian Railway Troops' Work in Belgium and France.

Canadian Railway and Marine World has been favored with the following information about the overseas work of the 1st Battalion Canadian Railway Troops, which was raised and commanded throughout by Lieut.-Col. Blair Ripley, who when selected for the work, was Engineer of Grade Separation, C.P.R., Toronto, and who has since been made a member of the Distinguished Service Order and also a Commander of the Order of the British Empire:—

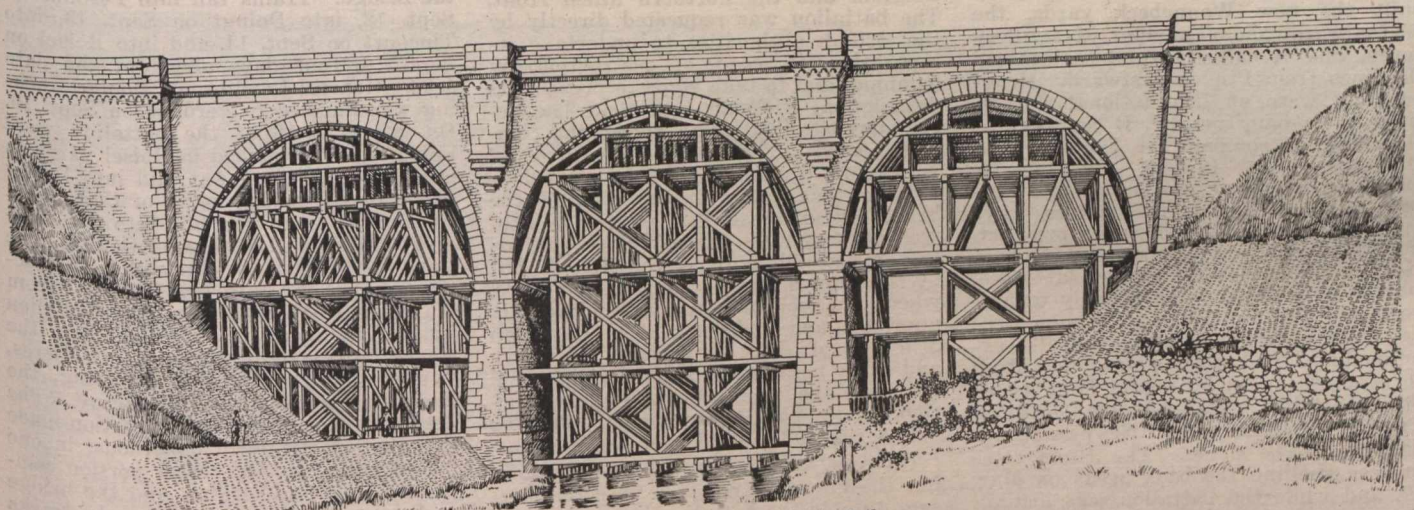
The battalion, which was recruited at various points throughout Canada, from Halifax to Vancouver, was mobilized at Valcartier, Que., left there Sept. 13, 1916, and went into camp at Witley, Eng., Sept. 24. During its stay in England, infantry training was carried on

new lines required in the forward areas. Subsequently new areas were again taken over from the French and maintenance and construction turned over to the battalion, but it had insufficient men for this extra work, and it was decided to make up six light railway construction companies of 350 men each. This was done by drawing from front line units the necessary number of skilled men and when the companies were completed they were placed under the battalion's jurisdiction. This made the total strength approximately 3,200 men. On the work just mentioned the battalion controlled over one half of the light railways on the British front at the time. The men suffered a great many hardships, those in Pozieres Jct., Combles, Leforest and

the British army, they seemed to feel honored by the work given them.

On Apr. 15, 1917 the battalion undertook the rebuilding of the double track line from Peronne to Roisel and on into Epehy. The line was completed to Roisel on Apr. 26. Roisel was still subjected to shelling, and the line into Epehy was not completed, because the Army Commander considered the battalion was too close to the Hindenburg line, and was causing too great an attraction, which was drawing fire unnecessarily. It, however, got within a mile of Epehy with the tracks.

On June 15, 1917, the battalion was ordered to cease work at Peronne and entrain for Dunkerque. We left Peronne at 6 a.m. on June 18 and at 5 p.m.



Wimereux Viaduct on Boulogne-Calais Railway.

Reinforced with heavy timbers, and provided with a steel floor, made up of two layers of steel railway rails, as a protection against enemy bombing. Designed and work carried out by First Battalion, Canadian Railway Troops.

and the necessary papers made out for proceeding to France. The battalion was subjected to a dental examination, and at the last moment it was found necessary to leave 160 men behind in England for treatment, the deficiency in strength being made up by a draft of men selected from the 127th Battalion.

The battalion entrained at Milford on Oct. 25, 1916, proceeded to Southampton, and sailed for Le Havre the same day. After a sojourn of three days at no. 1 rest camp at Le Havre, the battalion entrained for Aveluyom on the night of Oct. 28. The train was stopped at Albert and the unit taken back to Rouen and from there to Candas.

The battalion was given the task of putting in a water supply for the R.O.D. at Candas, and the double tracking of the line to Varennes. Subsequently the following work was added: A new yard at Candas and Varennes, with the maintenance from Candas to Beaussart and Colincamps. On Dec. 10, 1916, the battalion was ordered to proceed to Plateau, where decauville lines (23½ in. gauge) were being taken over from the French. Fortunately the battalion had sufficient personnel to maintain the then existing lines, to operate them, and to construct

Rancourt areas being housed in rudely constructed dugouts for safety against enemy shelling. They, however, had good fortune as far as casualties were concerned, and when they went again on to standard gauge work their killed and wounded were only two, although their camp at Plateau was shelled for three hours on Feb. 7, 1917 by 15 in. guns.

On Mar. 24, 1917 the battalion was hurriedly taken off the light railways to build a standard gauge line from Maricourt to Ferme Rouge, thence to Clery and into Peronne. Notwithstanding the terrible weather, the shelled area in which the line had to be constructed, the then great shortage of standard gauge working tools, they managed to have trains into the Quinconce spur and were supplying food to 20,000 troops on the night of Apr. 10, 1917, and this line was finally got into Peronne on Apr. 14, 1917. The line was 11 miles long with numerous small bridges and culverts. Peronne station and yard was found in a terribly wrecked condition. On the work just referred to, the Guards Division was placed at the battalions disposal as labor, and they worked in a way that merited the warmest enthusiasm and praise from everybody. Although they were the flower of

had completed the journey. It took 133 cars to make the move, although the mechanical transport had gone by road. The battalion camped at Rosendael station, about half a mile from the seashore at Malo-les-Bains, where a pleasant stay was made. The work there consisted of building a new deviation line from Coudekerque around Dunkerque to Rosendael. The men rather enjoyed the stay, as more or less of a holiday. During it, however, Dunkerque was shelled on several occasions by 16 in. naval guns; one shell making a direct hit on corps headquarters in the casino at Malo-les-Bains.

On July 21, 1917, the battalion was under instructions to proceed to International Corner, in Belgium, to prepare for some very hot work, the building of the line from Elverdinghe to Boesinghe, and thence over Pilchem Ridge to Lange-marck. On the morning of July 28, the men were taken out to commence work. This was the day of the big push and the feeling was very exhilarating, about 1,000 British shells were going out to every one of the enemy's coming in. Later on in the day the Huns put over a terrible barrage and little gain was made, no railway work being possible.

The weather was terrible, the shelling likewise, but by persistent efforts, the line was finally laid down as far as the Yser Canal. The last thousand feet of it, however, was blown to bits several times over, before anything further could be done. The battalion had most marvellous luck, or good fortune, and in getting from Elverdinghe to the Yser Canal at Boesinghe, its casualties were only 4 killed and 20 wounded. After a terrible artillery duel, lasting till Aug. 17, 1917, the battalion was able to build the bridge over the canal. The Canon farm siding on the line to Pilchem station was built under most trying circumstances and the officers and men took their lives in their hands every morning in going out to work. There was probably not a man in the battalion, who did not wonder how they could have such miraculous escapes, with so few casualties. The battalion's casualties east of the canal were 9 killed and 7 wounded. The artillery deserved great credit for their work in that area, and it was marvellous how the men and animals stood the strain. The punishment they took at the hands of the Boche was terrible.

During the winter of 1917-1918 the battalion was housed in Nissen huts and the men were very comfortable, they built the new Waanebeck yards, the Watou yard, and a number of artillery spurs, and re-ballasted and maintained the lines from Proven eastward. Headquarters were at International Corner, with A company nearby, B company at Nordhoek, C company at Eikhoek, and D company near Proven. On Mar. 10, 1918, the battalion was ordered to prepare to go to Egypt, to build railways and with some large bridges in prospect, and at once began to prepare for the trip. New equipment was ordered at once, packed and loaded on cars ready to proceed, via Taranto, Italy. The men were carefully picked over and medically examined and the battalion was brought up to strength again by drafts from every other battalion of the Canadian Railway Troops. But the trip to Egypt was not destined to be made. The Huns commenced shelling the back areas on Mar. 17, and while the battalion was loading its equipment on to cars at International Corner on the afternoon of Mar. 22, the track was broken on the main line in front of its living cars in six places, and it became so "hot" that everybody else had left the yard. It was found advisable to move about a mile west next day in order to complete the packing and loading in at least comparative safety.

On Mar. 23, 1918, the camp was all broken up and the battalion was ready to pull out. However, at 2 a.m. next day, the orders were cancelled and the battalion was ordered to Boves, just south-east of Amiens, to prepare trenches on a new line of defences. The 5th Army had given way and there was nothing else to do. Even harness for the battalion's transport had to be unpacked as well as its tools, but it left the same night for Amiens. The battalion detrained on Mar. 25 at Boves and its headquarters were at Thezy Glemont for three nights, after which it was ordered out again, and marched back to Bethencourt, doing 18 miles the first day and 10 miles the second day by 11 a.m. and then began at once to build trenches for a new line of defences, completing 33 miles of trenches before being ordered back to railway work again. The bombing of Amiens and the surrounding country was terrible, and everybody seemed to be

going west instead of east.

On Apr. 16, 1918, the battalion was ordered to proceed to Frevent, to build the new Frevent-Hesdin line, which was to have been used in case the Huns should cut our line at St. Pol. This at first was considered of great importance, but later developed into more or less of a peace time undertaking, which dragged on until August. On the line, however, there was one large bridge and subsequently some yards were put in. During this period the battalion made bomb-proof accommodations for the nursing sisters at Etaples, Boulogne, Outreau and Ligny, also for the W.A.A.C.'s at Montreuil (G.H.Q.) These had bomb proof covers, of from 25 to 30 ft. and the total accommodation would take care of about 1,000 of the women during unmerciful Hun raids.

During the early summer of 1918, when enemy bombing was at its height, the Wimereux viaduct, a 3-arch double track masonry viaduct, about 300 ft. long and 80 ft. high, on the Boulogne-Calais main line of the Nord Ry., was in very great danger. Numerous attempts had been made to destroy it by bombing, and its destruction would have cut off the main artery of supply for all Belgium and the northern allied front. The battalion was requested directly by the British authorities to undertake its reparation, in case of destruction by bombing, and to take steps to prevent its destruction, if found possible. The accompanying illustration shows the completed work. The timbers are all of 12 x 12 in. hard pine, and a solid steel floor or deck was made on the deck of the bridge by using slightly over a mile of steel railway rails. The work was greatly admired, not only by the British, but by the French Army authorities in Paris, where the scheme was unconditionally approved and endorsed. The Canadian Minister of Militia, General Mewburn and other notable Canadians, visited and reviewed the work during its construction. It is said to be undoubtedly the only work of the kind ever undertaken.

On Aug. 7, 1918, the officer commanding the battalion received a secret message to hold the battalion in readiness to proceed to the Amiens sector, as there were to be big things happening there very shortly. The work in hand was already completed and the battalion was practically standing-to. On Aug. 8 at 9 p.m., instructions were received to load up and proceed at once to Longeau, just east of Amiens and west of Villers-Brettonneux, and the battalion arrived there the next night at midnight. On arriving it was ascertained that the battalion was to assist the French in getting the line put into shape into Chaulnes. The Huns had blown up practically every rail in the track, and there were many nasty craters, besides they had not stopped shelling the area, and particularly the tracks. The 4th Battalion was working into Villers-Brettonneux and the 1st Battalion commenced about two miles east of there. It was a race with the Huns from that day till the day of the armistice, on Nov. 11, and the men did not have a Sunday off after getting into that area. By salvaging steel from the two lines taken over, it was possible to keep work going, but it was necessary to use new rails to close up the gap at Marcelcave on Aug. 12, which was the battalion's greatest day. It was very short of tools, but managed to get the tracks into Marcelcave by careful organization and handling of the men. On

the night of Aug. 13, the tracks were got into Rosieres. The battalion had managed to get the assistance of two battalions of Australian Pioneers who worked well. Men were scattered over the entire line and salvaged rails from the enemy dumps at Rosieres, and were pushed westward to meet the ones being laid from the west end eastward. The French were very much pleased with this day's performance. Rails were also salvaged from Rosieres for building the new decauville tranship yard at Les Buttes. It was impossible to go east of Rosieres at that time so the battalion took over the supply siding at Boves. Much ammunition had to be moved to permit going on with the work. In the meantime also it took on the building of bridges at Froissy and Bray.

On Aug. 29, 1918, the battalion commenced on the line into Chaulnes and moved camp to Rosieres on Aug. 30, to be close to the work. On Sept. 3 track was into Marcheplepot and the yard was used immediately. On Sept. 8 track was into Brie, and the battalion's train moved to Omiecourt to again be closely in touch with the work. On Sept. 10 track was at the Somme Canal at Peronne, and work was commenced driving piles for the bridge. Trains ran into Peronne on Sept. 12, into Doingt on Sept. 13, into Tincourt on Sept. 14, and into Roisel on Sept. 16, four days ahead of the date set by General Rawlinson. Double tracking was finished to Peronne on Sept. 19. On Sept. 24 16 of the battalion were killed and 11 wounded in Roisel yard, on Oct. 8 double track was laid into Epehy and over the bridge north of that point. On Oct. 10 track was laid into Gouzeaucourt and into Marcoing on Oct. 19. The Canadian Overseas Railway Construction Corps had already finished from Marcoing to Wambaix and the battalion jumped in ahead of them and put the tracks into Busigny, through Cattinieres, Caudry and Bertry, also assisting the French in getting into Wassigny. The delayed action mines in this section made the work particularly hazardous, in one instance blowing the center portion completely out of the trains, and the bridge at Caudry was blown up after the tracks had been completed over it.

The 2nd Battalion was working between Wassigny and Le Cateau so the 1st Battalion again jumped ahead, taking the line from Le Cateau to Maubeuge, on which the bridge work was very heavy, particularly those east of Le Cateau, at Aulnoye, Hautmont, and Maubeuge. On this work, in two places, in a single half mile, were craters that amounted to 10,000 cu. yds. of earth in one of the very high fills. This line runs through Landrecies, Hachette, Halte, Sassegny, Aulnoye, Hautmont, Louvroil, Sous Le Bois, into Maubeuge and thence to Charleroi, through some of the richest manufacturing districts seen. From Aug., 1918, the battalion worked full steam, not slackening in the terrible pace till armistice day, after which it had Sundays off.

Reference has been made in the foregoing to the Frevent-Hesdin line built by the battalion. The trestle bridge shown in the accompanying illustration is near the Frevent end of the line, and although it contains over 150,000 f.b.m. of timber and there was a very considerable amount of excavation work for the foundations, it was actually built and ready for operation in seven days. The work was of great interest to the French engineers who visited it during construction to learn Canadian methods in bridge

building, and they were so impressed with the expedition with which the work was carried out that they had illustrations of it published in *Le Miroir*, in Paris. The construction was similar to that of a standard railway trestle in this country. It is 600 ft. long and about 40 ft. high. The work was carried out by the A company of the battalion, under command of Major J. B. Heron, with Lieut. John Hamilton, an old C.P.R. bridge man, in immediate charge. It was at first estimated by the army authorities that the work would take from a month to six weeks, but as before stated, it was built in seven days.

Officers of Battalion.

Following is a complete list of the battalion's officers, giving their former occupations and addresses as far as possible:—

- Lieut.-Col. Blair Ripley, C.B.E., D.S.O., Engineer of Grade Separation, C.P.R., Toronto;
- Major A. R. Ketterson, D.S.O., Assistant Bridge Engineer, C.P.R., Montreal;
- Major T. R. Loudon, Civil Engineer, Toronto;
- Capt. and Adj. E. D. Toye, Storekeeper, Ontario District, Canadian Northern Ry., Toronto;
- Major R. R. Holland, District Engineer, National Transcontinental Ry.;

- Lieut. R. R. Hicks, Toronto.
- Lieut. C. P. Van Norman, Toronto and York Radial Ry., Toronto;
- Lieut. C. A. Scott, City Works Department, Toronto;
- Lieut. P. L. Scott, Electrician, Toronto;
- Lieut. John Hamilton, Bridge and Building master, C.P.R.;
- Lieut. R. Francis, Contractor, Timiskaming, Ont.;
- Lieut. J. E. Tremayne, Civil Engineer, Toronto;
- Lieut. W. S. Hunter, Contractor, Vancouver, B.C.;
- Lieut. J. M. Berry, Contractor, Toronto;
- Lieut. R. Richards, Contractor, Toronto;
- Lieut. M. L. Bouzon, Mining Engineer, Cobalt, Ont.;
- Lieut. R. Nickle, Civil Engineer, London, Ont.;
- Lieut. W. J. Nichol, Civil Engineer, Toronto;
- Lieut. R. E. Lindsay, Civil Engineer, Toronto;
- Lieut. F. O. D. Keily, Contractor, Winnipeg;
- Lieut. H. M. Jupp, Contractor, Orillia, Ont.;
- Lieut. E. Jupp, Civil Engineer, Orillia, Ont.;
- Lieut. C. M. Lane, Civil Engineer, Montreal;
- Lieut. A. S. Millar, Civil Engineer, Toronto;
- Lieut. W. J. Wright, Civil Engineer, Toronto;
- Lieut. T. Graediger, Civil Engineer, Montreal;
- Lieut. E. Thomas, Civil Engineer, Montreal;
- Lieut. H. L. Gilmour, Civil Engineer, Ottawa, Ont.;
- Lieut. F. G. Pusey, Contractor, Montreal.

Summary of the Battalion's Work.

Following is a summary of the work accomplished by the battalion, after going to France in Oct., 1916, up to Dec. 31, 1918:—

latter method rendered tracks more difficult to rebuild than the blown up ones.

Bridging.

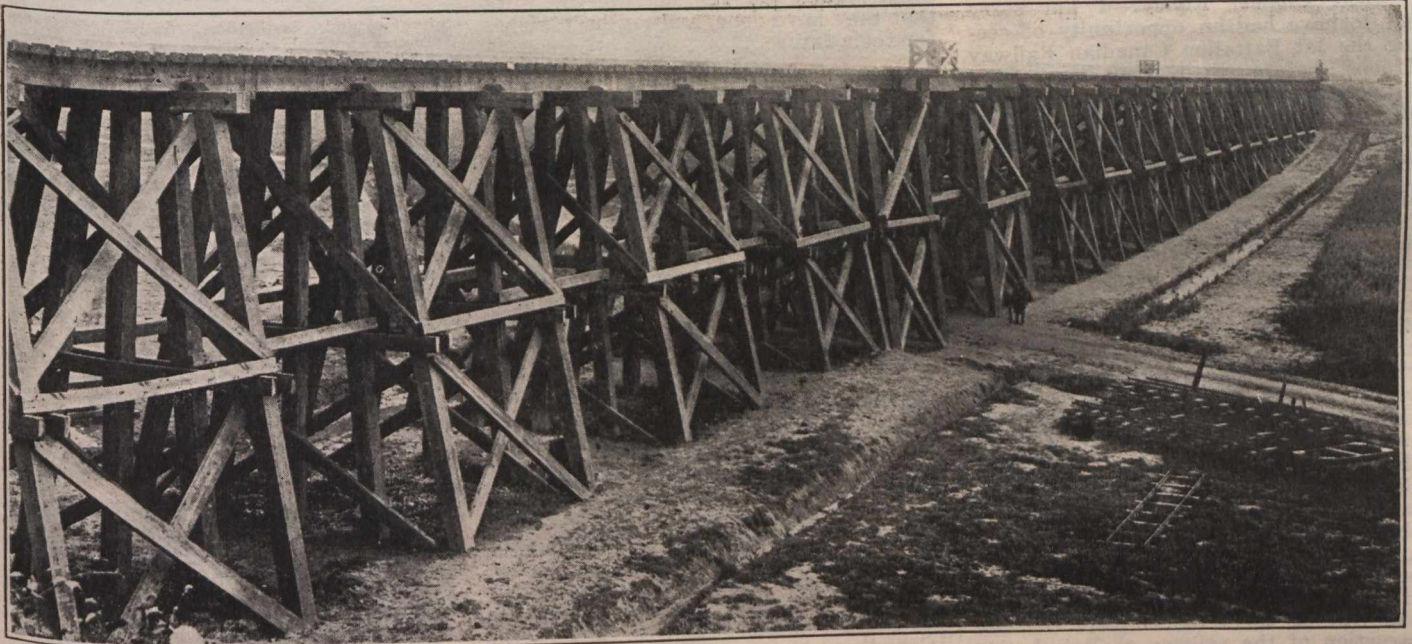
Somme area, 1917.....	981 lin. ft.
Dunkerque area, 1917.....	276 " "
Flanders front, 1917-1918.....	345 " "
Hesdin to Frevent.....	630 " "
Amiens-Maubeuge, 1918.....	2484 " "
	4716 lin. ft.

Bridges re-inforced for French to carry British and U.S. heavy guns.. 511 lin. ft.
Bomb proofing of Wimereux viaduct 245 " "

This last item covers the recentering of a 3-arch, double-track, masonry bridge about 80 ft. high and the placing of a steel rail, bomb bursting, floor thereon. About 175,000 f.b.m. of timber and 3½ miles of steel rails were used. The Frevent trestle also contained about 150,000 f.b.m. of timber, and altogether, after going to France, the battalion placed in bridges, approximately 1,500,000 f.b.m.

Of culverts of various sizes over 6,000 ft. were laid of corrugated iron, concrete and wooden box.

Water supply works—At Candas, 8 miles of 4 in. pipe line were laid in trench 2 ft. deep, pumping station was built and pumps installed to deliver against a 200 ft. head. Earth work, 1400



Trestle Bridge on the Frevent-Hesdin Strategic Railway in France. 600 ft. long, 40 ft. high, containing over 150,000 f.b.m. of timber; built in 7 days by 1st Battalion Canadian Railway Troops.

- Major F. G. Cross, Assistant Engineer, C.P.R., Calgary, Alta.;
- Major H. B. Muckelstone, Assistant Chief Engineer of Irrigation, Natural Resources Department, Calgary, Alta.;
- Major J. B. Heron, District Engineer, Canadian Northern Ry., Toronto;
- Major W. Woods, Consulting Engineer and Contractor, Toronto;
- Major A. T. MacDonald, Assistant Engineer, Halifax Ocean Terminals, Intercolonial Ry.;
- Major L. B. Allen, City Works Department, Toronto;
- Capt. J. H. Black, Resident Engineer, C.P.R., Sudbury, Ont.;
- Capt. G. O. Fleming, Toronto Ry.;
- Capt. W. J. Norman, Resident Engineer, C.P.R., Toronto;
- Capt. E. P. Muntz, Resident Engineer, Welland Canal, St. Catharines, Ont.;
- Capt. G. H. Pethick, Engineer and Contractor, Vancouver, B.C.;
- Capt. G. S. Grant, Contractor, Ottawa, Ont.;
- Capt. G. B. Little, Toronto;
- Capt. H. R. MacQueen, Civil Engineer, New Glasgow, N.S.;
- Capt. H. G. Hanson, Architect, Montreal;
- Capt. C. P. Fenwick, Medical Officer, Toronto;
- Lieut. O. P. Hertzberg, Assistant Resident Engineer, C.P.R., Toronto.
- Lieut. F. A. R. McNair, City Works Department, Toronto;
- Lieut. L. McD. Fleming, formerly secretary to Sir George Bury, as Vice President, C.P.R., Toronto;
- Lieut. Joseph Johnston, Toronto;

Decauville Railways—Somme Area, Dec., 1916—April, 1917.

Miles taken over from French for operation..	30.0
Miles built by battalion.....	26.9
Miles maintained (about 30% was re-ballasted	169.7

Standard Gauge Railways—April, 1917-Dec. 31, 1918.

	Miles built.	Turn outs.	Yards graded.
Frevent-Hesdin line.....	13.12	33	55,600
5th Army, in 1916.....	8.0	33	30,320
Somme, 1917.....	45.42	52	72,000
Dunkerque area.....	5.87	15	22,000
Flanders front 1917-18..	13.34	49	55,250
Amiens-Maubeuge line rebuilt	153.00	122	33,200
Total.....	238.75	304	268,370

On the reconstruction between Amiens and Maubeuge, 70 miles of new British rails were laid. German rails salvaged from their dumps and laid in the battalion's work, amounted to 5 miles. The balance of this work was construction, building one main line from two damaged ones, and 78 miles was thus built. The tracks were either systematically blown up or destroyed with a machine made for the purpose and which was dragged behind a heavy locomotive. This

cu. yd. Rock 400 cu. yd.
On Somme front, 1917—Water supply put in at Peronne and at Roisel. This included erection of water towers, stand pipes, pipe lines and putting in of permanent pumping plants.

On Flanders front, 1917—Six miles of 6 in. pipe were laid in 3 ft. trench, between pumping plant, west of Proven and International Corners. Ten miles of 4 in. pipe were lowered between International Corners and Poperinghe, without interrupting water supply. Excavation and backfill—12,000 cu. yd.

Boubers system, 1918—Laid 887 ft. of 3 in. pipe and 158 ft. of 6 in. pipe, also erected stand pipe and water tower.

Omicourt system, 1918—Set up new pumping plant and repaired old line that had been broken by bombing.

Peronne, 1918—Repaired existing system that had been put in by the Huns and made extensions to it.

Roisel, 1918—Repaired existing system, erected new water tower and stand pipes to supply the yard.

Caudry, 1918—Repaired existing sys-

tem that had been put completely out of business. This was a very tedious job as many mains in the city had to be dug out and repaired, before water could be got into tank at station.

Aulnoye, 1918—Erected new pumps and boilers, repaired bad breaks in large concrete water tank, erected three new standpipes and repaired numerous breaks in old lines.

Steam shovel work—At Fillivres the battalion operated its own steam shovel to ballast the Frevent-Hesdin line, and some 36,272 tons were taken out of a chalk pit at that point. It had on almost constant loan a steam shovel crew, with the Royal Engineers.

Reballasting and maintenance—On the Flanders front the battalion reballasted 23 miles of tracks which the Royal Engineers had built, and during the winter of 1917-1918, maintained some 49 miles of track.

Letters of Appreciation From the High Command.

On Feb. 3, 1919, General Sir Henry Rawlinson, commanding the 4th Army, sent the following letter entirely in his own hand-writing:—

“Dear Colonel Ripley:—I am sorry not to have had an opportunity of seeing the 1st Battalion Canadian Railway Troops before their departure from France, in order to thank them personally for all the excellent work they have done on the many occasions when they have served with my 4th Army. I call to mind especially their work between Maricourt and Peronne in 1916, and on from there to Epehy in the same year, during the first battle of the Somme. I remember the difficult and exacting time they had in Flanders, in 1917, when they constructed the line from Elverdinghe to Pilkem and east of it, in mud that almost defied construction. But their services during 1918 were almost vitally important, during the battles of the hundred days east of Amiens. The rapidity with which they got the line through from Villers Brettonneux to the Somme has always filled me with admiration, and it was largely owing to their industry and enterprise that my army was able to advance from the line of the river to the attack of the main Hindenburg line. When I made a special call on them to complete the construction of the railway to Roisel, they responded with a spirit for which I can never be too grateful to them, for on the completion of that line depended the supply of ammunition for the force of 1,500 guns which did the bombardment of the enemy’s main Hindenburg position. The date of the great battle of Cambrai-St. Quentin, which Marshall Foch has described as the most decisive battle of the war, depended on the results of the efforts of your men to reach Roisel. I asked them to be there by Sept. 20, they were through by Sept. 16, and we were, therefore, able to assemble sufficient shells in the gun positions to fight the general action on Sept. 29. I spoke to your men on several occasions when passing them at work on the railway, and both from personal observation, and the reports of my transportation department, their skill and perseverance seems to have been beyond praise. I thank both you and them most heartily for the splendid work they have carried out whilst serving with the British armies in France, and I wish all ranks every good fortune in years to come.”

Major-General S. D. L. Crookshank, Director General of Transportation,

wrote Feb. 6, 1919, as follows:—

“Dear Colonel Ripley:—I very much regret that I was unable to personally express to your officers, n.c.o.’s and men, my appreciation of the work of your battalion, prior to their departure for home. Your battalion, as the first construction battalion to come to France, established and maintained a very high standard of efficiency, of which the Corps Canadian Railway Troops, may well be proud and I would add that it has been a matter of great gratification to me to have been associated with you in your splendid career in France. I have had several opportunities of seeing your battalion at work, both on the Somme and on the Ypres salient, and, from my personal observation, the confidence I felt that any work assigned to your battalion would be carried out with expedition and skill, has always been most amply justified. You have never failed. The bridge work done by your battalion is especially worthy of mention, and it has been an example of what can be done, under difficult circumstances, in record time, by those who know how to do it. I hope that you will convey to all ranks my personal thanks for the magnificent work that they have done, and my best wishes for their future.”

Over \$80,000,000 Required for Canadian National Railways.

The Minister of Railways, Hon. J. D. Reid, in speaking in the House of Commons, July 5, said: “I desire to give some information as to the operation of the railways and the money that will be required in connection with them during the present fiscal year. For the Canadian Northern Ry. system the gross earnings will amount to \$94,000,000 and the working expenses, including fixed charges, to \$103,946,000, a loss of \$9,946,000. The government system’s earnings, it is estimated, will amount to \$37,321,485, and the working expenses to \$42,812,240, a total loss on the Intercolonial and Transcontinental part of the Canadian National system of \$5,490,755. That is the statement made at the beginning of the year. It is estimated that the loss on the Grand Trunk Pacific will be about \$9,000,000, and the loss on the Canadian National Ry. system as a whole, say, roughly, \$19,000,000, or a total of \$28,000,000. In reply to a question asked by a member last year, I would state that this estimate includes interest on all the Canadian Northern Ry. system. There is nothing for interest on capital in connection with the Intercolonial or National Transcontinental Ry. system.

“Expenditure on the construction of betterments this year on the Canadian Government end will be \$11,121,600. On railway equipment, rolling stock, for the whole system, \$20,000,000. That is the Canadian Northern, the Intercolonial and National Transcontinental. On the Canadian Northern system only we estimate \$21,421,000, made up as follows: Western lines construction, \$6,975,000; western lines betterments, \$4,479,000; eastern lines construction, \$2,082,000; eastern lines betterments, \$6,885,000; and general, \$1,000,000. This means a total of \$9,057,000 for construction, and \$12,000,000 for betterments.

“The following is a summary of the moneys to be supplied to the directors to meet the expenditures enumerated: Loss, \$28,000,000; construction on Canadian

Government Rys., \$11,121,000; equipment, rolling stock, etc., \$20,000,000; Canadian National Rys. construction and betterments, \$21,421,000, or a total of \$80,542,000. These are the figures as estimated for the coming year.

“The title for the rolling stock is in the Canadian National Rys. system and the government is nominally owner of all stock. Contracts have already been given for locomotives for some \$2,350,000; freight equipment, \$8,650,300; passenger equipment, \$4,450,000; a total of some \$16,555,000 odd.”

Railway Department Estimates for 1918-1919 and 1919-1920.

In addition to the estimates of which particulars were given in Canadian Railway and Marine World for May, pg. 259, the supplementary estimates for the year ended Mar. 31, 1919, submitted to the House of Commons during the recent session, included the following items:—

Chargeable to capital:—	
Quebec and Saguenay Ry. construction, further amount required.....	\$250,000.00
Chargeable to income:—	
Surveys and inspections, railways, further amount required.....	\$ 10,000.00
Chargeable to collection of revenue:—	
Canadian Government Rys.—Working expenses, further amount required.....	\$6,000,000.00

The supplementary estimates for the year ending Mar. 31, 1920, contained the following items:—

Chargeable to capital:—	
Hudson Bay Ry., construction.....	\$300,000.00
Quebec and Saguenay Ry., construction	550,000.00
To provide for the purchase, at prices not exceeding the amounts herein specified, of the following railways (the debts of each railway to the Canadian Government Rys. to be cancelled); interest on the purchase price of each to be payable, at 5% a year from the date of taking possession to the date of transfer of title: (Such of the said railways as are within the jurisdiction of the Parliament of Canada are hereby authorized to sell their respective assets and undertakings accordingly):—revote—	
York & Carleton Ry.....	18,000.00
St. Martins Ry.....	65,000.00
Moncton & Buctouche Ry.....	70,000.00
Elgin & Havelock Ry.....	30,000.00
Salisbury & Albert Ry.....	75,000.00
Interest estimated from date of taking possession to Mar. 31, 1920, not exceeding.....	34,000.00
To Edmonton, Dunvegan and British Columbia Ry., for subsidy on its branch line from a point on its line as located, situated near the Spirit River settlement, to and through the Grand Prairie Land District, Alta., or on its main line. To be expended on such branch line or any portion of the main line of the railway or both, under the supervision and direction of officers of the Railways Department and upon such terms and conditions as may be approved by the Governor in council.....	258,797.16

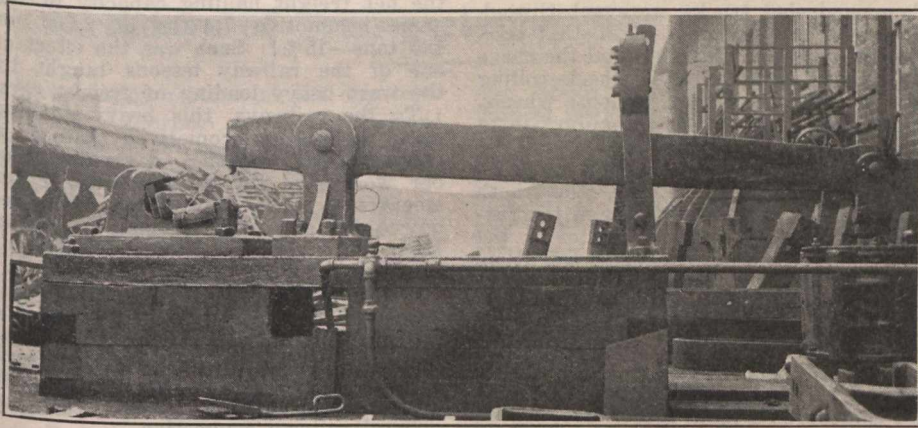
A Railwayman’s Bravery—Charles Boutillier, a locomotive man of Stratford, Ont., has been awarded the Royal Canadian Humane Society’s medal, suitably engraved, for saving the life of a two-year-old child who was playing on the track near Pleasant River station, on the Lake Erie and Northern Ry., in May. Noticing that it was too late to stop the locomotive, Boutillier climbed on to the pilot, and reaching out, lifted the child to safety.

Fuel Loss—On a recent test of a consolidation locomotive having 3,000 sq. ft. evaporating surface, and a 36-unit superheater, it was found that with 7 flues plugged, there was fuel loss of nearly 3%, and this increased in a nearly constant ratio to about 25% when 18 of the flues were plugged.

Railway Mechanical Methods and Devices.

Rivet Shears at Vancouver Shops, C.P.R.

Practically every railway shop has improvised some method of shearing off the rivets from coupler yokes, the principal method being to build up some simple machine that is operated by compressed air. The accompany illustration



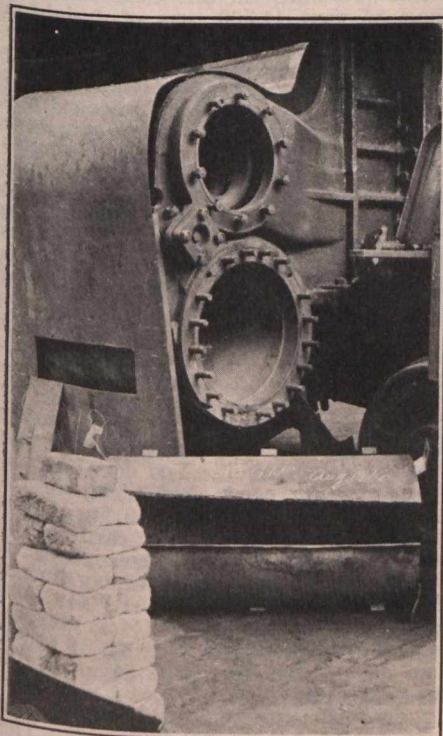
Air Operated Shear for Stripping Couplers.

shows such a machine, but has the advantage of being much more massively built than usual.

The whole is built up on a base of wooden beams, with a solid cast iron base. Most of the parts are specially made, but the use of scrap material has been embodied as far as possible. The whole arrangement is self-explanatory.

Welding Cracked Cylinder, Grand Trunk Pacific Railway.

The G.T.P.R. had a locomotive with a cracked cylinder, the crack running



Cracked Cylinder Repaired by Welding.

the full length of the cylinder, and it was decided that the defect could be

remedied by autogenous welding. The crack was enlarged by the use of an air hammer, forming a V-groove, about 2 in. wide at the top, tapering down to a width of from $\frac{1}{4}$ to $\frac{1}{2}$ in. at the bottom.

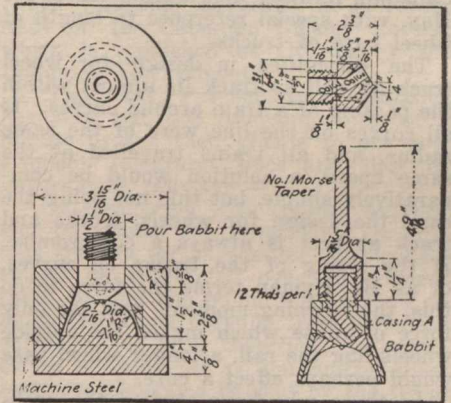
After this preparation, the whole bottom of the cylinder was heated to a cherry red, with a charcoal fire, and the weld made while in this condition. The V-groove was completely filled, and a

slight seam was left for truing up later. On the completion of the welding, another charcoal fire was built inside the cylinder, a specially prepared shield being made for the outside of the cylinder, in order to hold the heat, and the whole cylinder was brought to a cherry heat, and held at this temperature for several hours, when the whole body was allowed to cool down slowly. 48 hours was then allowed to elapse before the boring bar was applied.

With this method, the whole cylinder cooled and contracted slowly and uniformly, and there was no sign of a crack, either in the fracture or in any other part of the cylinder. Only the welding seam needed to be trued off after welding, as the cylinder did not

Tool for Grinding Superheater Joints.

The tool illustrated herewith, for grinding superheater joints, is made partly of steel and partly of babbitt. The same steel shank is used for both the male and female grinders, for the tube seatings, or tube ends. The method

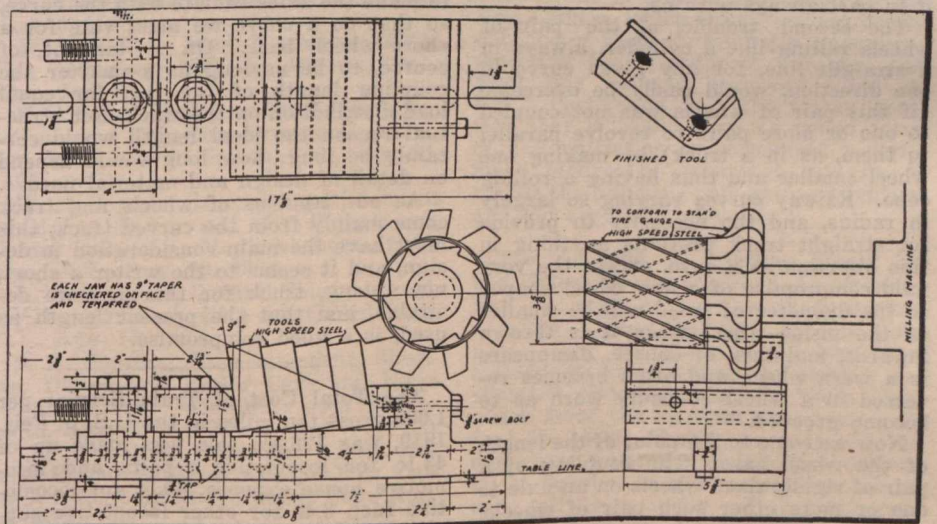


Tool for Grinding Superheater Joints.

of forming both grinding tips, is shown clearly in the illustration. The management has found this tool to be very successful for locomotive house work.—A. Connell, Tool Foreman, Kansas City Southern Rd.

Chuck for Milling Wheel Lathe Forming Tools.

This chuck was designed in order that four tools might be milled at one setting, thus saving quite a lot of time where large quantities are to be milled. The greatest feature in using this style of cutter is keeping it cool. A constant stream of lubricant should be applied, the quality of the lubricant not being of such great importance as compared to the way in which it removes



Chuck for Milling Wheel Lathe Forming Tools.

distort, but the cylinder expanded sufficiently to necessitate the truing down of each end about 1-32 in.

We are indebted to A. McTavish, formerly Master Mechanic, Transcona Shops, now Travelling Engineer, Dearborn Chemical Co., for the foregoing.

the heat. By keeping the cutter cool, very little resharping is required. We use two cutters, one for road locomotives, and the other for switchers, this combination covering all the tires turned. W. C. Stephens, Machine Foreman, Atlantic Coast Line Rd.

Problems in Design and Maintenance of Car Trucks in Relation to Maintenance of Roadway.

By C. S. Gzowski, Jr., M.E.I.C.

The following are a few comments on the paper on problems in design and maintenance of car trucks in relation to maintenance of roadways by W. J. Hyman, then Chief Draftsman, Car Department, G.T.R., which was published in Canadian Railway and Marine World for May, with special reference to length of wheel base of trucks.

The difficulties in design for wheel truck as well as track lie almost within the passing of a train around curves. If all curves on the line were of the same radius, and all trains travelled at the same speed, a solution would be comparatively simple, but this not being the case, the design for wheels, trucks and track at best is always a compromise. If the sluing of the trucks on curves, or as Mr. Hyman terms the force to do this, the "turning moment" was the only force or cause which makes the outside wheels hug the rail, a longer wheel base would perhaps effect a cure.

As those who have studied the problem know, there are three main forces or causes for a forward outside wheel on an ordinary railway truck to crowd the outside rail, viz: (1) centrifugal force, (2) the rigidly coupled wheels on an axle, acting as a rolling cylinder, always tending to roll in a straight line, and (3) the force necessary to swing the truck to the proper angle when first coming on to a curve, and again when leaving it.

The first, or centrifugal, force can be overcome by the correct elevation of the outside rail, but as the correct elevation is exactly relative to the speed and sharpness of the curve, in practice any elevation used is only exactly right for one certain speed around that curve, and therefore cannot be made to nullify centrifugal force on all trains, in practice. So that although this trouble no. 1 has an exact solution theoretically, practically a compromise has to be made, leaving it in part always with us.

The second trouble, of the pair of wheels rolling like a cylinder, always in a straight line, for any given curve in one direction, would easily be overcome (if this pair of wheels was not coupled to one or more pairs to revolve parallel to them, as in a truck) by making one wheel smaller and thus having a rolling cone. Railway curves varying so largely in radius, and the necessity to provide for straight track prevents anything in this direction as a cure, except the very mild compromise of a new wheel shaped so the diameter of tread will be smaller on the inside wheel when it is thrown inwards, and this, of course, disappears in a worn wheel, and often becomes reversed in a wheel so badly worn as to become grooved.

Now we come to the point of the length of the wheel base. The coupling of a pair of rigidly fixed wheels on an axle to one or more other such pair of wheels, as in an ordinary railway truck, makes the action of these coupled rolling cylinders quite different to a single rolling cylinder forced to travel in a curve, and in reality add another cause to our troubles of rounding a curve. And this trouble is in more than a direct proportion to the distance apart the cylinders are coupled rigidly parallel to each other. (The same would be true with cones or

with wheels not rigidly fixed to their axles). This is so well known in practice that a wagon is built so that one pair of wheels will turn when rounding a curve, and that when railway "wagons" got beyond a certain length, instead of having only two pair of wheels under them, swiveled trucks were substituted. Of course the reason is plain, that each pair of wheels to travel around the curve most easily, whether fixed wheels rolling as a cylinder, or a cone, or loose wheels, on an axle—must be travelling in a plane, tangent to the radius of the curve. So if a pair of wheels are coupled rigidly parallel to each other, both cannot fulfill this condition, and the further apart they are the greater is the discrepancy from this required condition. It is this condition of not being parallel to the rail which gives the climbing effect to a wheel. In other words, the longer the wheel base of a truck the more aggravated this trouble, which is subsidiary, in practice, or trouble no. 2 if not considered a main fourth one.

The third trouble, that of turning a truck on to and off a curve, in practice, particularly with curves spiraled, is certainly the least of all curve curses. If it was the major trouble, most of the flange wear of the rail would be on the ends of the curve, which is not the case, as from this cause no force would be applied after the truck was once turned, until it had to be straightened again.

Now the length of the wheel base of a truck, as in the other parts of the problem also becomes a compromise. For the curved track, certainly, it should be as short as will be consistent with good practice for the other consideration in the problem. The conflicting points for the length of wheel base boil down to this. On a curve for turning, the truck to be as long as possible, but this is outweighed by the other consideration, to have it as short as possible on a curve, to make the axles radiate with the curve, so that on a curve we must vote for a short wheel base. On a tangent, of course, to be as long as a quarter the coupling length of the car, for equal load distribution on the track. For structural reason the ideal length would certainly be long; how long would depend on detail of design and material used.

As our troubles of wheels and track come mainly from the curved track, this must have the main consideration in design, and it seems to the writer a short, not a long, truck for this is more desirable, and that the present length as used, is a good compromise.

The Total Cost of Train Service per 1,000 gross ton miles in the U.S. in Feb., 1919, was 126.5c; this was made up of 43.1c for locomotive repairs and locomotive house expense, 40.3c for locomotive fuel, 3.4c for other locomotive supplies, 34.8c for locomotive men and trainmen, and 4.8c for train supplies and expenses.

The Cost of Locomotive Service, per locomotive mile in the U.S. in Feb., 1919, was 120.7c, compared with 106.3c in Feb., 1918, an increase of 13.5%; and the total cost of train service per train mile was 169.3c, compared with 155c, an increase of 9.2%.

Heavy Loading—Quick Release.

The Canadian Railway War Board has issued the following bulletin:

Every time a 1914 freight locomotive moved a string of loaded cars, it pulled 20 tons of freight and 20 tons of freight car. Taking a 155% locomotive on a 0.4 grade (hauling 2,500 tons in all), it could handle per average loaded trip 1,250 tons of freight and 1,250 tons of freight car. In 1919 the average load per car had risen to 27 tons, increasing the net freight hauling capacity of the same locomotive 7-47ths of 2,500, or 185 tons—15%! Such was the effect of one of the railway lessons taught by the war; heavy loading of freight cars.

To the railways this heavy loading meant: Fewer locomotives hauled a given amount of traffic. A greater number were free for extra trains or for emergency uses. Fewer cars were required for any given amount of traffic. Each act of every operating department employe had a higher efficiency.

To the shippers and general public: It increased the railway capacity of the country. It reduced their risk of delayed shipments. It mitigated the seriousness of delays—if any. It speeded up all business. It laid the ghost of general railway congestion.

For if, for example, 107 loaded freight cars must be moved over a given stretch of track before another train can be made up to carry your five cars—if 20 of the 107 carry only 20 instead of 27 tons—then it is clearly due to the light loading of those 20 earlier cars that your five cars are left behind!

A second sound practice established during the war had to do with loading and unloading cars promptly. If your city of Domville imports 1,000 tons of freight a day, exports 500 and has to handle 10,000 tons of through traffic through its railway yards. If it has three miles of delivery tracks and seven miles of receiving and classification tracks—10 miles in all—then the handling of your 11,500 tons of freight a day will require a loaded car for every 27 tons, half a car empty (the empty mileage of the average freight car is roughly one-half its loaded mileage) and 40 ft. of track room for every car, loaded or not. This works out at five miles of track, or half the terminal capacity to handle one day's business through your town. Of course this is ideal: we are allowing that the average car clears the terminal in a day, counting through cars with cars which are being loaded or unloaded.

But now assume that you and your neighbors relax your usual speed in loading and unloading. Perhaps you have cut down your shipping room staff, or your foreman is placing some other work ahead of this. "Well," you say, "we pay demurrage!" You do. But you do more. For every day's delay in releasing one car, you hold 40 ft. of terminal track capacity, for 2 cars 80 ft.! If half the shippers and consignees in Domville hold their cars one day longer than usual, then track capacity for 1500 tons of freight, plus 50% for empties is held up—83 cars or 3,320 ft. of track. Two days—6,640 ft. Four days—13,280 ft.—two miles!

There is only one safety valve for traffic pressure, the delivery track. The longer it remains closed the greater the pressure. For this is how the terminal works: The main lines empty into the receiving tracks. The yard lo-

comotive "pulling his string" from the receiving track, shunts the cars from the end into the various classification tracks: Tracks 1-2-3-4 for, say, local delivery; tracks 5-6 for X-port; track 7 for Y-ville; track 8 for Z-ville; and so on. Later the yard crews clear these classification yards pulling out a string from track 8 for Z-ville; track 7 for Y-ville; tracks 1 to 4 for local delivery. But if you are not releasing yesterday's cars how can you take today's? If you can't

take 'em the classification yard must! The more you give the classification yard the heavier it becomes to work—till it jams!

Here, heavy loading and quick release of cars work with double effect. If the freight imported and exported from your city is loaded merely by 1914 standards—seven tons less a car—862 cars will be required instead of 639! Seven miles of track instead of five! And 15% more locomotives.

Birthdays of Transportation Men in August.

Many happy returns of the day to,—
W. E. Allison, Assistant General Agent, Mail, Baggage and Milk Traffic, C.P.R., Montreal, born at St. Eugene, Ont., Aug. 1, 1886.

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

J. C. Beckwith, District Engineer, Levis, Edmundston and St. Maurice Divisions, Quebec District, Canadian National Rys., Quebec, Que., born at Fredricton, N.B., Aug. 1, 1875.

C. B. Brown, Chief Engineer, Eastern Lines, Canadian National Rys., Moncton, N.B., born at Ithaca, N.Y., Aug. 27, 1879.

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

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

A. B. Chown, acting General Agent, Passenger Department, G.T.R., New York, born at Belleville, Ont., Aug. 4, 1887.

C. H. N. Connell, District Engineer, Montreal and Saguenay Divisions, Quebec District, Canadian National Rys., Quebec, born at Woodstock, N.B., Aug. 26, 1876.

H. W. Crawford, ex-General Agent, Canada Steamship Lines, Ltd., now of the U.S. Shipping Board, Emergency Fleet Corporation, Cleveland, Ohio, born at Bowmanville, Ont., Aug. 24, 1887.

E. L. Desjardins, Superintendent, Division 1, Quebec District, Canadian National Rys., Levis, Que., born at St. Jean Port Joli, Que., Aug. 1, 1859.

A. Eastman, Vice President and General Manager, Windsor, Essex & Lake Shore Rapid Ry., Kingsville, Ont., and President, Canadian Electric Railway Association, born in Bosanquet Tp., Ont., Aug. 21, 1870.

L. C. Fritch, Vice President, Minneapolis & St. Louis Rd., and Chicago, Rock Island & Pacific Rd., Chicago, Ill., born at Springfield, Ill., Aug. 11, 1869.

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

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

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

W. P. Hinton, Vice President and General Manager, Grand Trunk Pacific Ry. Co., and Grand Trunk Pacific Coast Steamship Co., and General Manager for the Receiver, Winnipeg, born at Hintonburg, Ont., Aug. 30, 1871.

F. S. Isard, Director of Finance, Can-

ada Steamship Lines, Ltd., Montreal, born at Hamilton, Ont., Aug. 14, 1888.

F. L. Lamplough, Superintendent, Ottawa Division, G.T.R., Ottawa, born at Cambridge, Vt., Aug. 15, 1867.

J. D. McDonald, General Passenger and Baggage Agent, Grand Trunk Western Lines Rd. (U.S.R.A.), Chicago, Ill., born at Toronto, Aug. 27, 1855.

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

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

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

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

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

L. Palk, Assistant Secretary, Winnipeg Electric Ry., and Secretary, Winnipeg, Selkirk and Lake Winnipeg Ry., Winnipeg, born there, Aug. 14, 1885.

Hon. Gideon Robertson, Minister of Labor, born at Welland, Ont., Aug. 26, 1874.

J. M. Rosevear, General Auditor, G.T.R., Montreal, born at St. Lambert, Que., Aug. 9, 1869.

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

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

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

W. H. Sample, General Superintendent of Motive Power and Car Department, Grand Trunk Ry., Montreal, born at Altona, N.Y., Aug. 20, 1864.

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

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

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

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

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

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

W. B. Way, Superintendent, Division 1, Central District, Canadian National Rys., Cochrane, Ont., born at Bowmanville, Ont., Aug. 22, 1867.

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

War Purchasing Commission Urges Use of Government Lines.

The following appeared in a recent issue of the Canadian Official Record, which is published at Ottawa by the Dominion Government:—

"The War Purchasing Commission has sent out the following copy of a minute urging their clients to use government telegraph lines and ship by government railways:—

"In connection with freight, express, and telegrams, the government is anxious that as far as possible all business should be transacted over government lines, so that the public may receive as much benefit as possible from increased earnings. It will, therefore, be appreciated if, in so far as you control these matters, telegrams be sent by the Great Northwestern Telegraphs and express and freight over the Canadian National Railways."

On enquiry of the War Purchasing Commission, Canadian Railway and Marine World has been informed that the minute quoted above was issued to "all Dominion Government departments in connection with purchasing."

No Nationalization of British Railways.

London, Eng., copyright cablegram to Toronto Globe:—"The question of the nationalization of the railways and other transport undertakings of Great Britain, which the government raised in the hastily conceived Minister of the Ways and Communications bill, has met with a contemptuous negative from the House of Commons. There are pages of the measure as originally introduced by Sir Eric Geddes, which have been cut bodily out, one of them containing a clause empowering the minister to purchase and work any railway, tramway, canal or lock. Parliament took the strong position that it would have no veiled form of nationalization or permanent government control of transport, and as it stands the bill aims only at co-ordination and the avoidance of waste."

The Adoption of "Sailing Days" by the United States Railroad Administration, is said to have worked marked economy. The plan had for its purpose: The allocation of all less than carload traffic destined to certain designated common points to those lines which form the shortest routes and afford the most effective service; and the movement from the distributive centers to the smaller, or non-competitive points, upon all lines under government control, upon specified and convenient days of the week. Its adoption, through the elimination of some, and heavier loading of others, has resulted in the saving of thousands of cars, besides furnishing better service, through the avoidance of transfers.

About one-fifth the total U.S. export of car wheels and axles during Feb., 1919, was to Canada.

Steam Railway Statistics for Year Ended June, 30, 1918.

Following are extracts from the report of the Comptroller of Statistics, Railways Department, for the year ended June 30, 1918:—

The reports of the various railways show increases in gross earnings, as the result of a higher volume of traffic than in 1917, with material decreases in net earnings arising out of swollen operating expenses. There were added 274.32 miles to the railway mileage of the Dominion, bringing the total up to 37,878.52 miles. The additional mileage is chiefly in the western provinces. The factor of mileage as used in certain calculations which follow is not constant. It varies for the purpose of reckoning capitalization per mile and operating results per mile. In the latter instance, for example, regard must be had for trackage rights, and the average mileage in actual operation during the year.

Operating Mileage, Less Trackage Rights.

	1917-18	1916-17
Ontario	11,057	11,049
Saskatchewan	6,162	6,124
Quebec	4,791	4,734
Alberta	4,273	4,444
British Columbia	4,247	3,885
Manitoba	4,168	4,194
New Brunswick	1,959	1,959
Nova Scotia	1,428	1,422
Prince Edward Island.....	279	278
Yukon	102	102
United States	413	413
Total	38,879	38,604

The additions to second track in 1917-18 were 5.66 miles, making the total second track, 2,680.57 miles. The additions to yard track and sidings were 70.20 miles, making the total yard track and sidings 9,294.35 miles.

Capitalization.

	June 30, 1918	June 30, 1917
Stocks	\$ 877,600,613	\$ 872,829,993
Consolidated debenture stock	216,284,882	216,284,882
Funded debt	905,994,999	896,005,116
Total	\$1,999,880,494	\$1,985,119,991

Of the stocks \$364,376,024 is classed as dividend paying, and \$513,224,589 as non-dividend paying. The total dividends paid for the year were \$30,103,982, equal to 8.26% on the dividend paying stocks, and to 3.43% on all stocks.

Cash subsidies paid to railways during 1917-18 amounted to \$720,404.75. There was loaned to the Canadian Northern Ry. \$25,000,000 and to the Grand Trunk Pacific Ry., \$7,500,000 during the year.

The cost, including equipment, of government owned and operated railways, for which no capitalization is given in the foregoing statements, is as follows:—

	Miles	Capital cost	Cost per mile
Intercolonial	1,553	\$141,636,812	\$91,202
National Transcontinent- tal	2,003	164,488,237	82,241
Prince Edward Island.....	273	11,901,180	42,810
Timiskaming and North- ern Ontario.....	329	21,195,045	63,863
New Brunswick Coal and Ry. Co.....	58	1,936,600	32,217
Totals	4,221	\$341,157,874	

Earnings and Operating Expenses.

Gross earnings	\$332,777,937	\$313,492,949
Less earnings by units like the Pullman Co.....	2,557,787	2,721,470
Gross earnings used for returns	\$330,220,150	\$310,771,479
Operating expenses	\$273,955,436	\$222,890,637
Percentage of operating expenses to earnings.....	82.9	71.7

Analysis of Earnings.

	1917-18	1916-17
Rail line— Freight	\$228,244,416.07	\$215,245,256.49

Passenger	67,089,362.62	61,290,290.07
Excess baggage.....	595,790.35	569,566.07
Sleeping cars	3,179,760.94	2,832,750.58
Parlor and chair cars	262,576.39	268,875.33
Mail	3,288,733.75	3,169,910.97
Express	9,824,583.29	8,999,073.85
Other passenger trains	64,024.666	72,110.40
Milk	550,416.08	538,486.82
Switching	2,917,752.37	2,380,706.18
Special service train	89,677.79	113,832.01
Other freight train Water transfer.....	36,920.15 1,529.61	27,652.04 41,518.50
Total	\$316,145,544.07	\$295,550,029.94
Water Lines	2,608,027.22	4,397,311.30
Incidentals	11,117,078.67	10,407,098.90
Joint facilities, cr. bal.	349,499.99	417,038.96
Total	\$330,220,149.95	\$310,771,479.10

	1917-18	1916-17
Gross earnings per mile of line	\$8,493	\$8,051
Gross earnings per revenue train mile	\$3.005	\$2.683
Freight earnings per ton.....	\$1.789	\$1.766
Earnings per passenger.....	\$1.322	\$1.140
Freight earnings per freight train mile	\$3.359	\$3.006
Passenger earnings per passenger train mile	\$1.352	\$1.160

The Total Operating Expenses in 1917-18 were \$273,955,435 an increase of \$51,064,798 over 1916-17. The operating expenses were 82.96% of gross earnings.

Operating Expenses.

	1917-18	1916-17
Per mile of line.....	\$7,046	\$5,774
Per train mile, all trains.....	\$2,494	\$2,494

Distribution of Operating Expenses.

	1917-18	1916-17
Way and structures.....	\$ 51,614,857.71	\$ 41,154,193.11
Equipment	57,304,234.84	46,371,178.39
Traffic	6,342,393.99	6,236,810.91
Transportation—rail line	145,107,396.15	114,327,343.71
Transportation—water line	1,552,958.83	3,271,892.62
Miscellaneous opera- tions	4,443,665.75	3,962,543.94
General expenses	7,597,985.10	7,584,881.55
Transportation for in- vestment—cr.	8,056.58	18,207.15
Total	\$273,995,435.79	\$222,890,637.08

The average cost of maintenance of way and structures per mile of line was \$1,327.57, against \$1,006.17 for the year ended June 30, 1917. The average cost of maintenance of equipment per mile of line was \$1,473.91 against \$1,201.32 for the same periods.

Freight Traffic

	1917-18	1916-17
	Tons	Tons
Products of agriculture.....	23,877,670	25,127,453
Products of animals.....	4,249,332	3,980,387
Products of mines.....	47,189,491	42,534,637
Products of forests.....	20,851,454	19,090,682
Manufactures	22,362,807	21,921,309
Merchandise	5,047,616	6,070,858
Miscellaneous	3,952,372	3,151,203
Undistributed	12,945	39,243
Total freight carried (tons)	127,543,687	121,916,272
Tons carried 1 mile.....	31,029,072,279	31,186,707,851
Tons carried 1 mile per mile of line.....	798,093	807,948
Average receipts per ton per mile	0.736	0.690
Average trainload (tons)	457	436
Average loaded cars per freight train.....	19.77	19.59
Average number of tons per loaded car	23.09	22.24
Average length of haul miles	243	256
Average revenue per ton	\$1.789	\$1.765
Tonnage per mile of line	3.281	3.159

The Origin of Freight was as follows:—

	1917-18	1916-17
	Tons	Tons
Originating in Canada.....	68,385,790	67,134,164
Received from connecting lines	25,118,277	23,451,578

Received from United States lines	34,039,620	31,330,530
Total	127,543,687	121,916,272

Passenger Traffic		
Passengers carried	50,737,294	53,749,680
Passengers carried 1 mile	3,190,025,682	3,150,127,428
Passengers carried 1 mile per mile of line.....	82,050	79,629
Passengers carried per mile of line.....	1,308	1,946
Passenger revenue	\$67,089,363	\$61,290,291
Passenger train revenue	\$88,192,056	\$80,767,114
Average receipts per passenger	\$1.322	\$1.140
Average number of pas- sengers per train.....	64	59
Average number of pas- sengers per car	17	16
Average number of cars per passenger train.....	5.8	5.7
Average passenger jour- ney miles	63	59

The average earnings per passenger train car mile were 23.7c. This includes all classes of cars forming a passenger train.

Equipment.

	1917-18	1916-17
Passenger locomotives	1,372	1,389
Freight locomotives	3,603	3,490
Switching locomotives	781	747
Total	5,756	5,626
Number of locomotives per 1,000 miles of line	148	146
Passenger cars:—		
First class	2,172	2,168
Second class	595	687
Combination	406	418
Immigrant	568	534
Dining	196	216
Parlor	166	155
Sleeping	555	562
Baggage, express and postal.....	1,514	1,462
Others	204	175
Total	6,376	6,377
Number per 1,000 miles of line.....	164	165

Freight Cars.

	1917-18		1916-17	
	No.	Capacity in tons.	No.	Capacity in tons.
Box	150,074	5,126,659	145,290	4,899,651
Flat	23,414	759,768	25,322	816,245
Stock	8,556	253,350	7,883	232,185
Coal	16,949	692,785	15,649	538,609
Tank	485	16,306	781	35,134
Refrigerator	5,893	176,890	5,234	155,510
Other	3,664	141,012	3,390	137,122
Totals	209,026	7,166,770	*203,499	6,798,456

*The companies reported 217 cars in addition for which no capacity was given.
Freight cars per 1,000 miles of line

Cars in companies' service.....

Train Car and Locomotive Mileage.

	1917-18		1916-17	
	Miles	Miles	Miles	Miles
Revenue train mileage:—				
Passenger trains	41,850,189	44,083,575		
Freight trains	60,143,014	62,863,724		
Mixed trains	7,787,636	8,746,811		
Special trains	76,721	102,990		
Total	109,857,560	115,797,100		
Non-revenue trains—Mile- age	4,158,919	3,627,901		
Freight car mileage:—				
Loaded freight cars	1,343,301,681	1,402,552,028		
Empty freight cars.....	494,404,216	516,127,805		
Caboose cars	64,419,008	66,728,241		
Total	1,902,124,905	2,030,408,074		
Passenger cars—Mileage:—				
Passenger cars	127,866,571	135,419,724		
Sleeping, parlor, etc.....	53,808,982	59,459,362		
Other cars	108,472,381	108,416,453		
Total	290,147,934	303,325,539		
Locomotive mileage:—				
Freight	63,921,041	68,983,629		
Passenger	40,870,513	44,005,835		
Mixed	7,897,536	8,612,666		
Switching	28,625,512	28,509,069		
Special	5,438,603	153,009		
Total	146,753,205	150,264,298		

Locomotives and Cars supplied to the American Overseas Expeditionary Force cost 245% and 214%, respectively, more than similar standard gauge equipment before the war.

Unit System of Handling Railway Correspondence.

By A. T. Roberts, Chief Clerk to Superintendent, C.P.R., Edmonton, Alta.

The unit system of handling railway correspondence undoubtedly commends itself to all who are conversant with the advantages to be derived from its adoption, and its superiority over any other system can hardly be disputed, ensuring as it does efficiency and economy; efficiency because delays on account of the temporary absence of the officer on the line are reduced to the minimum; economy because the necessity for writing to individual officers is obviated.

A properly organized superintendent's office, operating under the unit system, includes superintendent, trainmaster, division master mechanic, chief dispatcher, division engineer, bridge and building master, telegraph inspector and roadmasters, to whom the chief clerk is the chief assistant, as far as correspondence is concerned, and should insist on all telegrams and correspondence, both incoming and outgoing, passing through his hands, thereby precluding the possibility of erroneous or duplicated information being given. This method keeps him in touch with everything handled through the office. The system of recording and filing the multifarious correspondence handled in such an office is one which requires very careful study to obtain maximum results. Simplicity, for easy reference to records, is an essential factor, and the system adopted should be so complete that a comparative stranger may be able to locate correspondence in the shortest possible time. In order to achieve this objective, the numerical system of filing correspondence unquestionably stands pre-eminent.

Our system provides for numbers 1 to 1000 being used exclusively for handling telegrams. In the interests of economy, the file backs are used over and over again, filing the papers from which they are removed in numerical order and docking them for the period covered. Letter numbers run from 1001 upwards. Registers are used for recording inward letters, mailgrams, and outward letters, mailgrams and telegrams. The register clerk should be an experienced man, thereby eliminating errors, and the necessity for the chief clerk, whose time is more valuable, assigning file numbers to correspondence.

The most important daily mail arrives in mail bag from the general sub-clerk. By this time the important mail from district master mechanic, district engineer and car service agent. This arrives at 7.45k and the register clerk comes on duty at 8k, half an hour before the balance of the staff, in order to have the mail registered in, and ready for handling at 8.30k. The balance of the mail arrives at 8.30k and is opened by register clerk and junior clerk, after which it is handed to the chief clerk to look through, for the purpose of picking out, for preference handling, everything requiring the personal attention of an officer. While the mail is being opened, telegrams received during the previous night are given attention by the chief clerk. By this time the important mail is attached to files ready for reading, and distribution, by the chief clerk, to the different officers, followed by the less important mail as soon as attached, which is handled in the same manner.

A card index is used for recording important correspondence relating to the

handling of different reports, such as conductors' train reports, heated cars, refrigerator cars, etc. General subjects, such as "Allowance for grain doors supplied by shippers," "Employment, requests for, 1919," "Engineers' seniority lists," are entered on red cards; everything pertaining to company's property, under station heading, such as "Edmonton," "Stockyards," "Water rates," "Electric light rates," is entered on blue cards; all private sidings, elevator and coal shed sites, under station heading, such as "Edmonton," "Smith & Co., spur track," "Burnwell Coal Co.'s site," etc., are put on blue cards, with the file number shown on the card opposite the subject.

Derailments, personal injuries, stock killed, washouts, slides, and fires, are also specially recorded on cards printed for that purpose. Staff records are kept in alphabetical order, in the different branches of the service, and file number assigned to each employe on entering the service, which number is shown on top left hand corner of staff card and copies of staff forms and medical reports are kept on that file.

Correspondence relating to bridges and culverts, is recorded in card index, a separate card for each subdivision, the mileage of the bridge or culvert, as the case may be, being shown on the card, with the file number opposite, in the same manner as other special subjects.

Car numbers appearing in correspondence are recorded in an indexed car record book, with a brief statement and file number opposite the car number: For instance, shipment in car 123,489 is pilfered in transit; this would be shown on page 89 in car book thus: "1234, pilfered, file 10139." By this means the information is immediately available and the possibility of duplicating the file is eliminated, as it is frequently weeks and sometimes months before the claim is referred to the superintendent's office. The time consumed in making this record is negligible.

Experience proves that particulars of delays to trains or locomotive failures are generally handled by telegrams, at least in the initial stages, and it is therefore good practice to note the file number against the train or locomotive concerned, on daily performance report.

The "Hand me" system of handling outstanding correspondence is particularly well adapted to reduce the number of files not in filing cabinets, to the minimum. In explanation of its operation, let us assume that on May 1 the agent at B— was requested to furnish certain information, which in the ordinary course should be forthcoming in seven days; on the file copy we would write "Hand me May 8" and the file number of that particular file would be entered in a common diary under date of May 8, and file put in filing cabinet; if the reply had not been received on May 8, the file would be brought out and the agent in question traced for reply. For less important files it is only necessary to write the date on the file copy, the number being entered in the diary in the same manner. When replies are received the dates are cancelled. This system obviates the necessity of holding files in abeyance baskets, which is prevalent in some offices. It is very discouraging when looking for a file to have to search

through a number of outstanding files in abeyance baskets and officers' desks, in order to locate a particular file required. This is unnecessary with the "Hand me" system, which reduces the number of files not actually in the filing cabinets to the minimum.

The system described in this article has worked out satisfactorily in this office since its inception nearly five years ago. Of course, it is admitted that no system is so perfect as to overcome the human failure of placing a file in its wrong place in the filing cabinet, but the possibility can be precluded to a great extent by the employment of a careful filing clerk.

I am an interested reader of articles written with the object of promoting efficiency in office organization and management. One article I had the pleasure of reading recently, was that by W. H. Mathews, chief clerk to Superintendent, Canadian National Rys., Capreol, Ont., appearing in Canadian Railway and Marine World for February, and while I do not wish to be too condemnatory, I would hesitate to adopt the system outlined, to replace the one in operation in this office, because the introduction of locomotive and car numbers into filing systems has a tendency to confuse rather than simplify the system. While Mr. Mathews dealt with a number of subjects handled in a division superintendent's office, there was no reference made to the method employed in recording "Applications for employment," "Enquiries regarding lost property left in passenger trains," "Requests for transportation," "Applications for bulletined positions," "Petitions for increased train service," "Increased facilities for handling livestock," "Car supply," and numerous other subjects.

F. W. Lambert, chief clerk to General Superintendent and Chief Engineer, Algoma Central and Hudson Bay, Sault Ste. Marie, Ont., in his article in Canadian Railway and Marine World for May, recommends the Williams filing system. That system, in my opinion, creates too many general files, all correspondence being classified and a number assigned to each class. There is nothing more provoking when looking through a file on a certain subject than to find correspondence relating to something entirely alien thereto, although, granted, it may come under the same category. It will be found that by reducing the number of general files to the minimum, a lot of time and labor will be saved, in fact there is no necessity for more than four of these files in a railway superintendent's office.

The Northern Pacific Rd. is using moving pictures, to demonstrate the advantages and disadvantages of different methods of firing, and the effects of wastefulness and carelessness in the operation of locomotive and the handling of fuel.

The Terminal Cartage Co. has been incorporated under the Ontario Companies Act with an authorized capital of \$40,000 and office in Toronto, to carry on the business of carting, forwarding, transporting and distributing goods and merchandise of every description.

There are about 5,000 locomotives equipped with mechanical stokers in the U.S.

Steam Railway Statistics for Year Ended June 30, 1918.

Canadian Railway and Marine World for July contained a table giving the mileage of all steam railways in Canada, with details of the freight and passenger earnings and of the operating expenses and net operating earnings or deficits. In the following table the 1st column shows the net revenue or deficit on the railway operations of the several companies; where there was a deficit the figures are preceded by a minus mark, thus —; the 2nd the profit or loss from operations outside railways, and the 3rd the income from all other sources. The 4th column shows the taxes paid, the 5th gives the gross corporate income, from which is deducted the amounts in the 6th column, viz: rents, interest on funded debt, sinking fund, etc.; the 7th column showing the net corporate income available for special appropriations, dividends on common and preferred stock, or held in profit and loss account. The cents have been omitted in the columns, but are included in the totals.

Name of Railway	Net operating revenue or deficit	Profit or loss from outside operations	Other income from all sources	Taxes deduction	Gross corporate income or loss	Rents, interest, sinking funds, etc.	Net corporate income or loss
Alberta and Great Waterways.....	\$ -9,856	\$ -3,107	\$ 23,217	\$ 1,865	\$ 8,387	\$ 191,650	\$ -183,262
Algoma Central & Hudson Bay.....	578,615		134,381	31,976	681,021	788,603	-107,582
Algoma Eastern	287,730		2,089	3,194	286,625	329,820	-43,198
Atlantic, Quebec & Western.....	1,635		60,569	3,276	58,928	20,636	38,291
Brandon, Saskatchewan & H.B.....	-94,677		355	1,072	-95,394	1,868	-97,262
British Yukon	92,956		15,965	6,826	102,095	105,023	-2,928
Canada Southern	5,238,522		584,162	603,069	5,219,615	4,557,409	662,206
Canada and Gulf Terminal	9,703	2,000		1,091	10,612		10,612
Canadian Government Railways:—							
Intercolonial	-2,079,001				-2,079,001	254,191	-2,333,193
International of N.B.....	-170,685		333		-170,351	17,755	-188,107
St. John and Quebec.....	-58,996		216		-58,779	27,992	-86,771
Prince Edward Island.....	-537,233		303		-536,930		-536,930
National Transcontinental	-2,199,505		25,840		-2,173,664	493,525	-2,667,189
Canadian Northern System.....	5,543,539			434,488	5,109,071	16,783,258	-11,674,187
Canadian Pacific	38,704,152	1,594,190	11,276,718	2,279,604	49,295,457	3,159,739	46,135,717
Cape Breton	-12,804				-12,084		-12,084
Caraquet & Gulf Shore.....	780				780	10,207	-9,426
Central Canada	-28,513			230	-28,744	47,190	-75,934
Central Vermont	-18,080		22,538	7,767	-3,308	70,618	-73,926
Crows Nest Southern.....	-104,553		15	24,690	-129,228	6,553	-135,782
Cumberland Ry. & Coal Co.....	14,669				14,669		14,669
Dominion Atlantic	297,220	-655	17,000	1,682	311,882	343,176	-31,294
Eastern British Columbia.....	-298			3,088	-3,387	11,731	-15,119
Edmonton, Dunvegan & B.C.....	118,167	13,812	40,289	2,109	170,159	436,855	-266,695
Elgin & Havelock	-4,541				-4,541		-4,541
Esquimalt & Nanaimo.....	296,354			39,541	256,812	228,447	28,365
Essex Terminal	30,328				30,328		30,328
Fredericton & Grand Lake C. & R. Co.....	64,865			269	64,596	82,408	-17,811
Grand Trunk	7,714,324		4,062,874	799,377	10,977,821	11,923,175	-945,354
Grand Trunk Pacific.....	-414,072	72,963	2,335,409	49,963	1,944,337	9,333,906	-7,389,568
Grand Trunk Pacific Branch Lines.....	-618,902		418	23,794	-642,278	1,232,085	-1,874,363
Hereford	-85,879		21	1,829	-87,688	33,707	-121,396
Kent Northern	8,454				8,454	1,450	7,004
Kettle Valley	-38,293			13,593	-51,887	639,559	-691,447
Lotbiniere & Megantic	5,599			900	4,699	2,106	2,592
Maine Central (Princeton Branch).....	1,096			669	427	3,376	-2,949
Manitoba Great Northern.....	-102,547		318	671	-102,900	7,196	-110,096
Maritime Coal Ry. & Power Co.....	28,952				28,952	6,777	22,175
Massawippi Valley	-93,259		1,402	2,008	-93,866	69,979	-163,846
Midland of Manitoba.....	-80,674		24,755	26,251	-82,170	82,173	-164,344
Montreal & Atlantic	8,962		1,400	22,582	-12,220	117,825	-130,046
Moncton & Buctouche	-26,350			170	-26,520	1,551	-28,072
Morrissey, Fernie & Michel.....	12,242			125	12,116	5,080	7,035
Napierville Jet.	91,979		2,660	904	93,734	58,262	35,472
Nelson & Fort Sheppard.....	-53,193		7,422	23,804	-69,574	4,663	-74,238
New Brunswick Coal & Ry. Co.....	4,830				4,830	5,254	-415
New Westminster Southern.....	-12,610		7,616	631	-5,625	26	-5,652
Ottawa & New York.....	-76,155		3,769	12,191	-84,577	58,083	-142,661
Pere Marquette	1,253,636		159,388	21,403	1,391,620	1,161,365	230,254
Quebec Central	553,249		5,500	15,250	543,500	293,715	249,784
Quebec, Montreal & Southern.....	-29,264		294,563	9,654	255,644	262,935	-7,291
Quebec Oriental	25,974		1	3,087	22,887	122,905	-100,017
Quebec Ry., Light & Power Co.....	22,078			7,609	14,469	126,283	-111,814
Red Mountain	-21,882		35	3,850	-25,697	180	-25,878
Roberval-Saguenay	49,555		47,500	1,322	95,733	81,285	14,447
Rutland & Noyan.....	-5,875		4,000	8	-1,883	4,000	-5,883
Salisbury & Albert	97				97		97
St. Lawrence & Adirondack.....	637,345		726	8,674	629,396	251,097	378,298
St. Martins	-3,790				-3,790	437	-4,227
Sydney & Louisburg.....	107,174				107,174		107,174
Temiscouata	67,006		1,059	4,530	63,535	35,531	28,003
Timiskaming & Northern Ontario.....	478,806		156,484		635,290	113,024	522,265
Thousand Islands	14,688		714	102	15,300	5,876	9,423
Toronto, Hamilton & Buffalo.....	898,470		82,903	82,783	898,590	287,824	610,766
Vancouver, Victoria & Eastern.....	-527,718		222,696	124,903	-429,925	213,514	-643,439
Victoria & Sidney.....	-3,286			1,202	-4,489	17,232	-21,722
Victoria Terminal Ry. & Ferry Co.....	17	148	223	1,562	-1,173	182	-1,355
Wabash	511,280				511,280		511,280
York & Carleton	1,415				1,415	144	1,270
Less—	\$ 63,776,500	\$ 1,683,114	\$ 19,627,863	\$ 4,711,262	\$ 79,882,353	\$ 54,523,437	\$ 49,657,540
	7,511,785	3,763			7,021,687		31,329,311
	\$ 56,264,714	\$ 1,679,350			\$ 72,860,666		\$ 18,328,228

Labor Saving Devices for Railway Track Work.

Following is the report of the committee on labor saving devices as adopted at the Roadmasters' and Maintenance of Way Association's last annual meeting:—

Mechanical Tie Tampers—It is the committee's opinion that no tool in recent years furnished to the track forces made its appearance at a more opportune time or filled in a greater void than the power operated tie tamper. It may be reasonably said it is here to stay, although for several reasons it has been a somewhat difficult implement to introduce, the principal reason being the

\$14.88, \$238.08; balance in favor of machine, \$145.92.

For a 4-tool machine the comparison between hand tamping and mechanical tamping was as follows:

Hand gang and foreman, 16 men, 8 hours, tamped 500 ft. of track; machine gang and foreman, 6 men, 8 hours, tamped 528 ft. of track; saving of 10 men and 80 hours for machine.

Expense: Hand gang and foreman, 16 men, \$43.50; machine gang and foreman, 6 men, \$18.50 (cost to run \$6.95); \$24.45; saving by machine, \$18.05.

Fixed charges are given as follows as

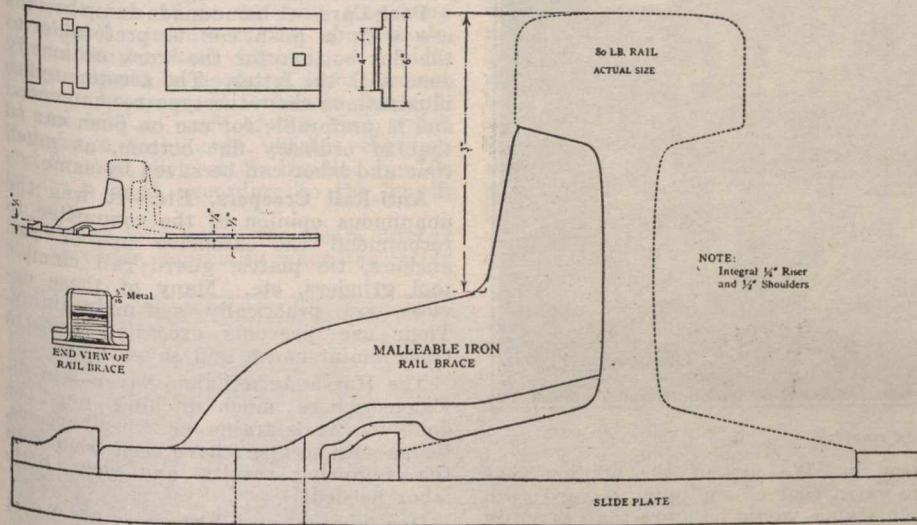
Cost of unloading cinders by hand, a yard, 16c; by dropping bottoms, Rodger ballast cars, a yard, 7c; steel gondolas, a yard, 7c.

Comparative statement of levelling cinders by hand and by the use of a spreader, in one half hour a spreader has levelled 3,000 yards, costing less than \$0.001 a yard. To do similar work by hand it cost \$0.123.

Rail Handling Machines—As much new rail is received in high side coal cars, it has become absolutely necessary that some mechanical device be used for unloading it. Not on account of the labor shortage alone, but to avoid damage to rails by dropping or rough handling, is such a device needed. The constant demand for quick release of cars, the high cost of work trains and the few hours of actual work on a line of heavy traffic requires a device that will work rapidly with a maximum factor of safety to laborers.

There are rail handling machines in use which are capable of loading or unloading two cars of rail at the same time. For the operation of these machines nine men are required, one man to operate hoists, and 4 men to each car of rails. The machine is operated by air from the train line. Such machines will unload rails more quickly and without damage to rails or injury to men than could be accomplished by 40 men by hand, thus a saving of 31 men a day is made possible. This machine can also be equipped with tongs to load or unload as many ties with 3 men as can be loaded or unloaded by 20 men by hand.

Rail Laying Machines—Your committee recommends the use of rail laying machines, especially where rail is of a heavy section, thus relieving tongs-men for other work, the number re-



See section of report, "Switch plates."

cost, and next the sceptical way in which many trackmen looked at anything capable of tamping ties other than the tamping pick or tamping bar in the hands of a competent laborer. Now, however, owing to the growing scarcity of labor and the inefficiency of many of those available for track work, the mechanical unit is brought into play and hailed gladly by those interested in track maintenance.

The great majority of those who have used a tamping machine and given it a fair trial will testify to its wonderful value as a labor saving device. Any description of the construction or operation of this machine is unnecessary as the machines in general use have been widely advertised and many have seen them in operation.

It is the committee's observation that the work is more uniform and better than track that is tamped by hand, especially since we are getting such a poor class of labor. It has been proved that a tamping machine is of particular value around frogs and switches, water pans, tunnels, etc., as it is possible to tamp with it in places which cannot be reached by a tamping bar or pick.

Carefully compiled figures from several railways covering a period of three seasons are given below.

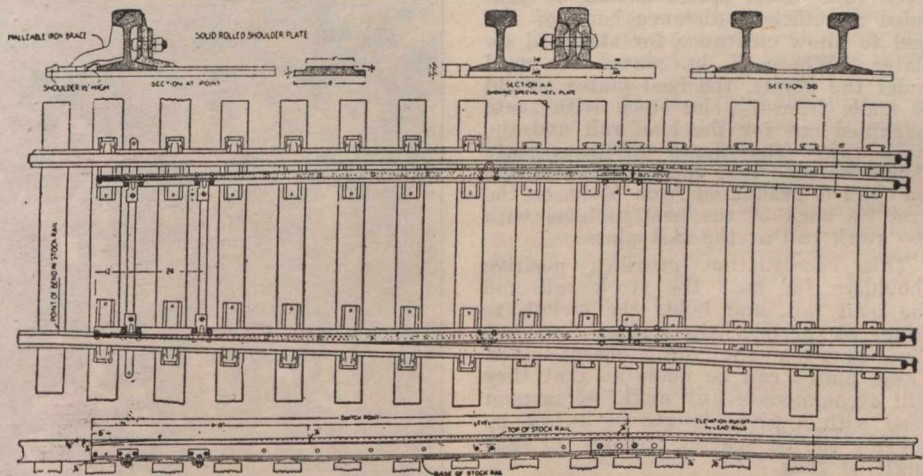
For a 2-tool machine: 1 foreman, 10 hours at 32c, \$3.20; 4 men, 10 hours at 22c, \$8.80; 12 gallons gasoline at 24c, \$2.88; total \$14.88.

Without machine: 1 foreman, 10 hours at 32c, \$3.20; 4 men, 10 hours at 22c, \$8.80; total, \$12.00.

Cost per mile of track without machine, 32 days at \$12, \$145.92; cost per mile of track with machine, 16 days at

near as it is possible to get them: Depreciation at 10%, interest 5%, repairs 5%; total fixed charges, 20%.

Experience during the four years this machine has been in use teaches that



See section of report, "Switch plates."

under normal conditions in the northern states, each machine will be used during the season to tamp about 20,000 ties. The foregoing figures show a saving that can be effected by this machine which is in use on 54 roads in the U.S. and on some roads in very large numbers.

Travelling Crane for Loading Cinders at Cinder Pit—At one cinder pit where crane is used, the cost of loading cinders for a year was \$0.007 a yard, while at a pit where cinders were loaded by hand the cost was \$0.13 a yard.

leased depending on the weight of the rail to be handled. To obtain the best results by the use of the machine, care should be used to unload the rails as near as possible opposite where they are to be laid.

Snow Melting Device—Your committee is not unanimous in their views as to the benefits to be derived from snow melting devices, but the following results were submitted by one of the members:

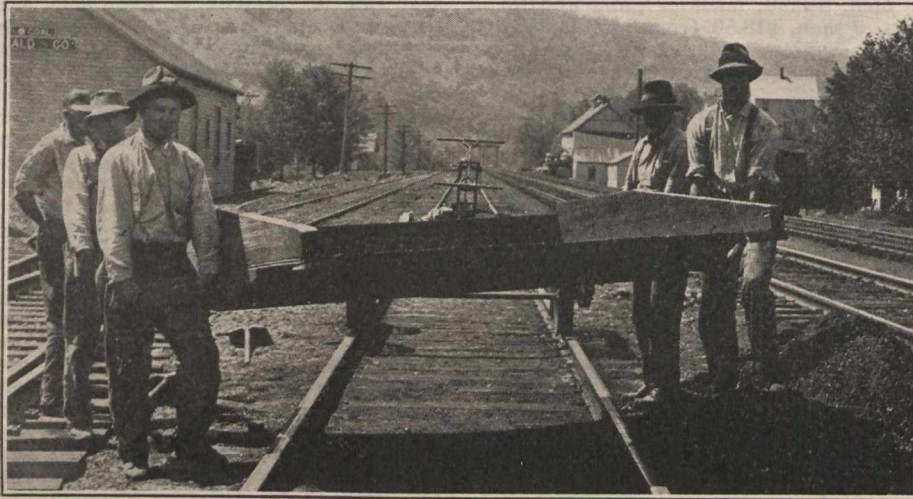
Two laborers at \$3.80 a day, \$7.60; royalty on cans \$5 a year (used about 5½ months, 2 cans) 6c; 6 gallons hydro-

carbon fluid at 11c a gallon, 66c; total cost with melting device, \$8.32.

If done by hand: Foreman at \$3.35; 10 laborers at \$2.80, \$31.35; 6 rattan brooms at 28c, \$1.68; total cost by hand, \$33.03. Saving by use of device, \$24.71.

Another device which can be used successfully for the same purpose is the Hauck snow melting torch.

Switch Plates—We recommend under each point of a 15 ft. switch, 9 plates and under each point of a 16½ ft. switch, 10 plates with a uniform riser of ¼ in. on every tie.



Push car, dump box empty.

The risers should be solid and preferably obtained by machining a seat for the stock rail. At least 14 of the plates should be provided for braces and where braces are used there should be a shoulder to engage the rail brace and another under the rail brace engaging the base of the stock rail.

For heavy service the plates should be not less than ¾ x 7 in. under the stock rail. Heel plates should be provided a sufficient distance back of the heel to allow clearance for standard tie plates. Where ¾ in. plates are used under the points, the heel plates should be made from 1¼ in. stock with seats machined out for the lead rail and the stock rail. The depth of these cuts should be such that the elevation of the lead rail is graduated from ¼ in. on the first tie back of the heel to level with the stock rail at the last plate.

This construction provides positive shoulders for both the stock rail and the lead rail, and holds the switch to gauge at the heel where other construction requires the most maintenance. These plates can be made so that they will accommodate any angle of turnout used with a given length of switch by varying the tie spacing slightly for each angle of frog.

The accompanying plans confirm to the above recommendations.

Rigid Versus Safety Switch Stands for Use in Busy Yards—Automatic switch stands can be considered a labor saving device, as well as a material saving device, as switches can be run through without derailment or damage to the material or equipment. Your committee has given this subject considerable thought and collected much data in an effort to eliminate, if possible, the destruction of so many stands by the same being run, through. Scarcity of labor, with material 100% higher than in normal times, has brought about a

serious condition and it is our opinion that the time was never more opportune for this association to go on record and recommend to our superior officers the adoption of the automatic safety switch stands, particularly for busy yard use. This stand should be as low as it is possible to make it. By adopting a stand of this kind, our material would be conserved and the small amount of labor which we can obtain will be available for the much needed repairs to track and will save considerable time in making reports of switches being run

hand car, 3 hours, or a total of 45 hours, showing a saving in favor of motor cars of 30 hours. There is still a larger saving in the increased energy of the men when they arrive on the job, in the better class of labor attracted, and in the time saved on emergency jobs.

Perhaps the best argument in favor of these cars is in the fact that thousands of them were bought by the men themselves, whose wages were the lowest of all railway employes, they purchasing them to avoid the drudgery of handcars.

Mechanical Method of Mowing and Destroying Weeds—The use of mowing machines and weed burners, also chemicals to destroy weeds, are of great value in some territories.

Push Cars—A home-made dump box for use with a push car is preferable to the flat bottom for the work ordinarily done with the latter. The accompanying illustrations show the type recommended and is preferable for use on push car to that of ordinary flat bottom, as much time and labor can be saved by same.

Anti-Rail Creepers, Etc.—It was the unanimous opinion of the committee to recommend the extensive use of rail anchors, tie plates, guard rail clamps, tool grinders, etc. Many of these devices are practically self-maintaining. Their use prevents excessive cost in track maintenance and saves labor.

The Horse As a Labor Saver—On divisions where much ditching must be done by work trains or wheelbarrows, teams with scrapers have been tried with the following results and very little labor needed:

One laborer can fill scrapers for 2 to 4 teams, according to the distance and advantage of working. Two horses can easily handle a no. 1 scraper, which holds 7 cu. ft. and move at a 2 mile an hour rate, with some delay for filling, turning and dumping scrapers. One



Push car, dump box filled.

of sections are such as to warrant their use. Therefore it is the committee's opinion that the economy in the use of motor cars decreases in proportion to the additional number of main tracks, which in turn shortens the length of sections. We have obtained the following figures showing the economy effected by the use of motor cars:

Time spent in carrying 14 men and foreman by motor car, 14 miles, 30 minutes; for round trip, 1 hour, or total of 15 hours. Time spent for round trip by

horse of good weight can handle a no. 2 scraper of 5 cu. ft., and after teams are trained a boy not able to do heavy manual labor can drive a team, or when in a narrow ditch and one horse is used, one boy can take two single horses with a scraper. Dirt can be handled in very short cuts, at the ends of cuts and across the track, for 20c to 25c a yard and haul it 500 to 600 feet for 50c to 60c a yard; this with teams at 80c an hour and labor at 35c an hour. Of course, where teams can be hired at 50c to 60c

an hour, cost will be reduced accordingly. By starting teams early in the season, with an experienced man in charge to handle them, all ditching can be done and balance of gang left on other track work. Teams can also be worked in muddy cuts where men won't work. A horse with cart can also be used in terminals to good advantage cleaning yard, team tracks and driveways.

Where conditions of mowing right of way are such that it is possible to use teams and mowing machines, the work can be done by machinery much cheaper than by manual labor.

Ditching Machines, Dump Cars and Spreaders—When heavy ditching has to be done, the use of steam ditchers is recommended, together with the use of at least two 16 to 20 yard side-dump cars and a spreader car for short hauls. For a longer haul from 4 to 6 side-dumps should be used. A light locomotive can be assigned to handle this outfit and with an outfit of this kind, which includes a train crew, ditcher engineer and fireman, dirt can be handled for 10c to 25c a yard, according to the length of haul.

Through long usage the steam ditcher and spreader, especially when the latter

out sending for additional help or using a flag to get rail to place; also useful handling ties. These cars with a dump box are very handy for distributing the surplus of gravel or stone ballast. Boxes hold 1-3 to ½ yard and can be handled without flag by dumping. They can be dumped inside or outside the rail.

Ballast Plough—There are many opportunities for improving devices now in general use. A ballast plough can be made to remove all the ballast from track, whereas at present they are made to remove the ballast level with the top of rail. All ballast may be removed by bolting a steel plate on to the present type of plough and permitting the plate to reach the entire length of the tie, only removing enough of the plate to clear rail and joint fastenings; the depth of plate depending on height of rail in track from which ballast is to be removed. An attachment to do this work can be made and applied by a blacksmith and helper, in two days, and material needed may consist of scrap bridge iron or angle bars and is a very inexpensive attachment and of great value for removing ballast that has been unloaded for backfilling. Removing and

Transferring a carload of wheat by hand: 6 men, 10 hours at 30c an hour, \$18; transferring by air: 2 men, 6 hours at 30c an hour, \$3.60; with a small additional cost for the pumping of air, a saving by the latter method of \$14.40 a car.

The transferring by air was accomplished by an arrangement consisting of a 4 in. pipe and attaching in one end an air nozzle similar to a back-up hose on a train, then attaching this to an air line, by which means the grain can be blown from one car to another.

There are many devices so universal in their use as to be practically a necessity for all roads, yet they have not been adopted. There should surely be no excuse for longer allowing a large force of men to dig ditches in a cut, when the ditching machine has reached the stage of perfection it has. Neither should there be an excuse for a large force of men wasting time and energy when machines can be secured which will accomplish the work with more safety and economy.

It has been truly said that no two railways are alike and for their maintenance requirements it may be as truly stated that no two sections are identical, what will prove of the greatest advantage on one road would be money uselessly expended on another. Therefore it is impractical for this committee to lay down hard and fast rules for the adoption of certain devices under all conditions. However, we are most earnestly convinced that the adjustment of little details very often means the ultimate success or failure of a machine or device.

Rail Handling Device—After the committee's report had been adopted, B. F. Brown, Supervisor, Boston and Maine Rd., Woodsville, N.H., gave the following description of a rail handling device in use on that line: The rail handling device we use, and of course there are many that answer the same purpose and do the same work, was designed by me in 1907 and put into operation that year. It is worked by compressed air taken from the train line into reservoirs and thence to the air hoist placed at each end of the car, with matched booms extending from the car at either end. The air hoists work each independently of the other. You can unload at one end and load on the other, or unload both at the same time. Each is independent of the other. The machine was thoroughly tested. As is the case with all new devices, our management requires a strict account of the performance, whatever the device may be, to compare with the work done by hand, or any other way, aside from the particular machine. On Oct. 27, 1907, with me in charge, and operating the rail loader, we distributed 160 tons of 75-lb. rails, from 5 high side coal cars, in 3 hours and 15 minutes, clearing for 3 trains during that time. The force consisted of one foreman at 30c an hour, and 8 laborers at 18c an hour. The total cost of labor for 3¼ hours was \$5.66. If it had been done by hand it would have required a force of one foreman at \$3 a day, and 40 laborers at \$1.80 a day, making \$75. There was a saving of 1-3 of a day with the loader against a full day by hand, or 0.6934. That is exclusive of the train cost. I have many reports of work performed with the loader in distributing rails, from which the above were taken on account of its being an average day's



Push car, dump box being emptied. Material may be spread by moving car as load is released.

is operated by air, has reached such a high state of efficiency that they are practically indispensable and the fact that they can be used for many different varieties of work, places them among the most important labor saving devices.

A saving of at least 60% over that of manual labor is obtained by using a no. 3 crane for removing ballast from between tracks, in preparing for stone ballast, digging drains under tracks, unloading old ballast on fills, to strengthen shoulder and fill up holes, load and unload rails and for various other purposes.

A machine known as the Magnet is used very successfully to load and unload scrap of various kinds. This machine is capable of picking up 6 or 8 33 ft. rails as rapidly as it will one, and eliminates handling the rails by hand, and reduces to a minimum the liability of injuring men.

Two-Wheel Pony Cars as Labor Savers—In rail laying, the pony car is very handy for distributing spikes, bolts, angle bars, tie plates and even scattered rails. Where a heavy rail is to be replaced in track by a small gang, a pony car makes it possible to load rail and move it to point where needed, with-

out dressing ballast by hand is hard work and very expensive under ordinary conditions, and at present, when sufficient labor is unavailable, this device is of immeasurable value where much ballasting is in progress. In addition to this attachment, another plate with teeth may be applied to loosen up and level off ballast between parallel tracks and on shoulder. It will also destroy weeds. It can be operated at a speed of from 4 to 6 miles an hour. The saving effected per mile will depend on the amount of ballast to be removed and the density of vegetation.

Field Telephone—It is recommended that the field telephone be furnished to ballast and rail-laying gangs, also on work trains and snow ploughs, particularly on lines with heavy traffic. These outfits can be purchased for from \$5 to \$25 a set and will reduce to a minimum the delays to extra gangs and trains and will result in a saving of money which cannot be closely estimated.

Transferring Cars—When transferring grain, a big saving can be effected at points where it is possible to secure sufficient air pressure. One member reports the following results:

work for a foreman and 40 laborers by hand. The old rates were in force at the time the work was performed. The saving would be increased in proportion to the increase in wages of laborers. In loading rails into high side cars, the loader will do work that would be im-

possible for any number of men to do by hand, and therefore there can be no comparison made of that. With the same force as used in the unloading, namely, a foreman and 8 laborers, scattered rails may be picked from the ground into the coal cars at the rate

of three rails a minute, with a train movement of ½-mile an hour. After giving a demonstration of the machine, a roadmaster said to me, "I do not want one of those, I would lose my work train in a week." But today he is the greatest rail machine man that I know of.

Piecework; an After War Problem.

By J. R. Macken, Montreal.

The greatest tragedy of modern history, the world war of 1914-1918, was pressed with relentless and ever developing energy by the entente nations, and brought to a final victorious conclusion, in the main, by the moral conviction that if mankind was destined for progress, autocracy must be destroyed beyond recovery. Democracy, which became in the verbosity of the paid politician, the utopian dream of a universal brotherhood, was preached broadcast and openly encouraged as a "win the war" measure. The evangelists of this ideal order of things found the masses willing converts, and labor welcomed the promised change which would level up the wide gulf that had existed for so long between the producer and the provider of the necessary capital to produce. In thus feeding labor with over doses of an advanced democracy, which, at the best, could only be a gradual and, probably, an inevitable development, with, or without, the great war, in our regular progression towards the millennium, there have been added many problems to our anticipated after-war troubles, and it is one of these, vitally affecting production, the writer proposes to discuss.

Piecework, as a means of increasing production, is just as old as the natural inclination of man to respond to encouragement. The only development of the principle has been in the conversion of the encouragement from mere words of praise, which, in earlier days, the "master" graciously gave to the "servant," to a bulkier pay envelope and increase his output. We give to the efficient producer. Piecework, is operated in industrial plants, under many different systems, and many different names, but the underlying intention is similar throughout, viz.: the rewarding of the worker according to his physical or mental ability to develop and increase his output. We are not concerned very much with systems in this article, but rather with an analysis of our subject and an endeavor to explain away objections to piecework as a recognized method of manufacturing, or other shop operation, and the causes which may have given rise to the official opposition of labor.

At the first glance the definition of piecework—the remunerating of the producer, according to his ability to produce—would not appear to lend itself to such abuses that a large proportion of the labor community should vigorously, and, even bitterly, disclaim against its continuance, and, in many instances, with a full knowledge that the acceptance of their protest would result in a reduction of from 20% to 50% in their earnings. A condition of this kind requires some explanation, either with a view to confirming the protest or of locating the canker giving rise to it, and, if feasible, finding the cure. The following headings cover a wide field for investigation and the

writer proposes to discuss the possibilities for abuse which each holds and the remedy which might be applied:—1. The system; 2. The application; 3. The object from the pieceworkers' point of view; 4. The object from the employers' point of view; 5. Results.

The System—Straight piecework has been claimed as the ideal system, the producer being paid just what he earns, when the total amount of work completed is turned into currency at so much per piece. There is no question of rate per hour or classification or basic trade. Ten articles, having a piece value of 10c each, have a wage value of \$1, whether they are completed in one hour, or in 10 hours. Such a system lends itself to innumerable abuses. In principle, it is the exact opposite to trades unionism, as it does not require the recognition of trade at all. As a means of curtailing earnings, it provides unlimited possibilities. The piece value of a job must be set by some one responsible individual, and it is only necessary to set such a value sufficiently low to automatically control the possible earnings of the pieceworker. The straight piecework system should pass with the advance of democracy, and its passing carry no regrets either for the employer or the worker.

Any piecework system, be it premium or bonus, should initially accept the principle of the basic trade and the guaranteed rate, i.e.: the worker is hired first of all as a tradesman, and paid according to the recognized wage standard of his trade, and then is further remunerated for the extra physical, or mental, effort he puts into his work, at a piece value based upon his basic rate as a tradesman. Here there is a direct incentive for the efficient worker to considerably add to his pay envelope, with a full knowledge that his extra effort has a direct translation into dollars and cents over and above his hourly rate, while his working time is fully protected at the recognized wage standard of his trade, and the setting of the piece price has a definite and easily checked value which, even at the worst, cannot represent less than the guaranteed rate paid per hour. For the employer, there is a positive return in the increased output of the worker another elimination of lost time, which, of course, has a money value, according to the rate paid per hour, while the guaranteed rate ensures the services of a skilled craftsman and a good finished job.

The Application—The very best of systems can only be applied and developed in the correct spirit if the responsible administration is fully alive to what is desired and departs not from the underlying intention. Only too often we find piecework systems administered by a personnel half auditors, half clerks, wholly out of sympathy with the tradesman, unfamiliar with mechanics, shop methods, shop organization and conditions, which so closely control the possi-

bilities of output and frequently limit production, no matter what the physical effort of the pieceworker. When we recollect that any piecework system, to be at all successful, represents an additional outlay in wages of anything between 15% to 35% of the employers' payroll and that the return is shown only in increased production, reduced overhead and machinery charges, etc., it is really astonishing how haphazard a method has been followed, fairly generally, by the technical executive of manufacturing and other plants in selecting their piecework administrative personnel.

Piecework administration is responsible for setting the piece value of all work performed, and seeing that the shop organization and conditions are such that the average pieceworker may earn a reasonable bonus on his guaranteed hourly rating, by maintaining his output at the gait upon which the value has been set. Should the shop organization, or conditions, not permit this, either the original piece price should be revised, or the shop conditions improved. To permit the pieceworker to continue to work at a piecework gait, without alteration in either controlling conditions, is unjust and should not be tolerated. The piecework administration should, therefore, have enough organizing knowledge to improve shop conditions, when or wherever adversely affecting the earnings of the pieceworker, and as the earnings of the pieceworker and output are dependent one upon the other, the adjustment of the irregular shop conditions cannot militate against, but always in favor of, output. The piecework administration should have a sympathetic understanding of the labor conditions, and instead of taking advantage of irregularities which adversely affect output, treat them judiciously, and with a broad-minded understanding of how far the loss has been beyond the control of the pieceworker. No pieceworker should ever be penalized for a condition beyond his power to control.

From the foregoing, which but lightly touches upon the duties of a piecework administration, it will be readily noted that the personnel calls for considerable mechanical knowledge, executive ability, broad-minded and sympathetic administration and fair and honest dealings with labor. If the selection of the supervision is not guided along these lines, we are handing over a very important technical position, which carries a weighty influence upon the harmonious relations between the employer and the worker, to a personnel viewing its duties purely from a cost point of view, eager to snatch at mean advantages which penalize the pieceworker, and, inevitably, creating a spirit of distrust and suspicion in the mind of the worker, who will meet sharp practice with sharp practice, to the detriment of output, skimping of work and, finally, slander of piecework as a means for oppressing labor.

The Object, From the Pieceworkers' point of view. The day when the worker took a pride in his job, and in putting all his energy into his 12 or more hours of daily toil, just to keep the output on his bench, machine or shop ahead of the other fellow, has faded away with the stage coach and the postillion. We live, alas, in a mercenary age and "the almighty dollar is the thing." If the worker is producing under a piecework system, he knows that to increase his earnings over and above his guaranteed rate he must exert himself physically, or mentally, according to his occupation. That being so, he, very naturally, wants to know exactly how much this extra effort will be worth to him on next pay day, and should be in possession of the necessary information during the actual progress of his job, if not prior to the commencement of it. How often have we heard protesting pieceworkers disclaim, "I never know my price for any job, and when I believe I have earned \$10 or \$15, I get nothing extra at all in my pay envelope." The only object which interests the pieceworker is the development of his earning capacity, and to withhold complete information as to prices and earnings from the worker, who is putting extra effort into his daily toil, is scarcely believable, but, unfortunately, not infrequently practiced by inefficient piecework administration. The man who would not buy an article without an advance knowledge of the price, who would not, probably, sell his labor without an advance knowledge of the rate, is asked to exert himself physically and mentally, during the period of his working day, for an extra monetary consideration the value of which is unknown to him or when known uncheckable. We are asking much from modern labor when we impose such conditions, and that the protest should be bitter is not surprising.

The Object, From the Employers' Point of view. As stated already, the operation of a piecework system means an increase of from 15% to 35% in the shop payroll. For example, a shop carrying a payroll of \$50,000 a month will pay out in bonus earnings from \$7,500 to \$17,500 a month. This addition to the payroll does not create a perfectly obvious inflation in the employer's net operating income, but, of course, actually does so in his reduced operating costs. The ability to produce in large quantities and with low operating costs is just what spells financial success to the manufacturer. The augmented output of the pieceworker enables the manufacturer to produce at a low unit cost, to undersell his competitor, to increase and extend his sales to the benefit of the consumer, the producer and himself.

There are two well-known makes of automobiles, one, an overseas product, is claimed to be produced by the efforts of the highest skilled mechanics, who are permitted to take their own time to complete any part, provided the finish of same is 100% perfect. This automobile is so costly in production that possession of one is to admit the owner into the exalted circle of war profiteers or heavily purpled nobility. There is another make of automobile, which is produced on this continent. This machine is modest (sic) in its claims for perfection, but it has never been known to buck a grade or let the other fellow 60 h.p. beat it on the level, and it is produced in such considerable quantities that labor and his family may

enjoy all the delights of sniffing gasoline and "burning up the road" with a reasonably modest expenditure. These two examples represent the difference between augmented production, and what it means to the manufacturer, and production a secondary consideration, and what is means to the purchaser.

Results—The writer has endeavored to make an analysis of piecework and its troubles and from the foregoing consideration arrives at a finding on the following lines: The objections of labor to the piecework system of shop operation would appear to be reasonably well founded under certain conditions. 2. The cause for opposition has been, first, the system, second, the application. 3. The penalizing system known as "straight piecework" has to a large extent disappeared, and should be abolished completely. 4. The penalizing application has been due to careless selection of non-technical, unsympathetic administration.

The Canadian Overseas Railway Construction Corps' Work in Belgium and France.

Lieut.-Col. C. W. P. Ramsey, C.M.G., who commanded the Canadian Overseas Railway Construction Corps, which left Canada in June, 1915, gave the following information in a recent talk:—

"Our work overseas was regarded as of considerable value to the combatant forces, and that work was largely due to the strong support we received from the first from the C.P.R. From the beginning of our organization to the time when we went overseas our work was aided in its entirety by the C.P.R. and its management, not only aided in our recruiting, but assisted in every way in the organization and equipment of the work. Further than that a very large percentage of the corps was supplied from the C.P.R. ranks. For the 900 men we needed there was keen competition. No less than 3,000 men, all experienced railway men, applied, and we had to do much careful work selecting the best men we could get for the work.

"We went over in June, 1915, and on reaching the other side there was little delay. We had two months in camp at Longmoor for training, after which we were sent over the English Channel. It was found then that the greatest need for railway work at the front was in Belgium, and we were sent there. We did not know just what the work was, but we were all keen for it, and we jumped in as hard as we could, every man doing his share with a desire to do all that he could.

"Our first work was at Dixmude, where we started in building concrete structures with a vast amount of miscellaneous work. From this we proceeded to the building of 10 miles of track, which was the first railway work done by the allied armies. The only previous railway was a wooden road, which was put down with wooden rails, with the idea of keeping down the noise so as to avoid warning the enemy of what was being done.

"Behind the British front, we put in the first advance railway for war purposes they had. Later on the British war people put in a great railway organization, which operated with much success back of the British front.

"The British had had a few railway men at work. But when the Canadians

5. The remedy lies in the employer's own hands. The selection of a piecework administration should be as carefully made as any other executive. 6. Distrust and suspicion are prevalent, due to concealment of piece prices, sharp practice, etc. 7. Full and free information should be given the pieceworker, as to piece value and earnings. Uncontrollable loss in bonus to be protected either by adjustment of pricing, or improvement in conditions. 8. Fair and square dealings between employer and pieceworker will most surely result in the passing of labor's distrust and suspicion, and reciprocal honesty on both sides. 9. Piecework awards labor in direct proportion to physical or mental energy expended, increases earnings and production, reduces selling cost, and increases demand for labor. 10. Piecework reduces production cost, increases business and returns, and eliminates inefficient labor and waste time.

arrived the value of this work was at once seen, and the force grew very quickly so that the railway corps increased to 4,000, and eventually to over 100,000.

"In Feb., 1916, shipments of box cars began to arrive from Canada and the first plant for the erection of these cars was supplied from the equipment of the Canadian Railway Corps and installed at Andruicq.

"At that time a monster ammunition dump had been collected there, but the Germans, by their air service, and other means of information, had learned about it. Then when we had 20,000 tons of munitions and high explosives collected there, the Germans came and bombed it. The results were not pleasant, but there were only 40 or 50 Canadian casualties.

"Later on I went to the Somme front. They had tried in that area to handle transport, but all their roads had failed. They were trying to get railways to various points until the Canadians arrived. Then we built the most advanced railway in France, only 1,200 yards behind our front lines, which was a great saving in every way for our forces.

"In 1917 the Huns began their great retreat. It was evident that the retreat had been carefully planned long before, because anything that had not been carried away was blown up on a systematic plan. Further, they fixed time charges to blow up anything they could not get away with, in the hope that the charges later on would get the British troops, while other charges were so arranged that they would explode from the vibration of passing troops and material.

"During the summer of 1917 a large number of advanced railways had been that the November attack proved a success, 450 tanks being brought up under cover of night for the advanced troops in order to prepare for a surprise fire. But this was so well done that the November attack proved that a success, 450 tanks being brought up in one night, and brought up so well that the enemy never knew they were there until the attack developed.

"However, the Canadian Overseas

Railway Construction Corps did two or three things during their service overseas that more than justified their existence. They laid the first standard gauge railway back of the lines. At

that time their strength was only 500 men. Following that they increased their strength, and during the war they laid 400 out of 2,000 miles of track laid back of our lines. Eventually they fin-

ished their work by laying the tracks in the Valenciennes and Mons region, which had very much to do with the success of the closing operations of the war."

Orders by Board of Railway Commissioners for Canada.

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

General order 266. June 17.—Authorizing telegraph companies to charge tolls published in their respective tariffs filed with the Board, subject to such order or orders as the board may from time to time issue.

General order 267. June 27.—Amending general order 231, re standard conditions and specifications for wire crossings.

28,426. June 9.—Authorizing London & Port Stanley Ry. to build station at Talbot St., St. Thomas, Ont.

28,427. June 11.—Rescinding order 27,841, Nov. 7, 1918, re commodity rates on ferro-silicon from Welland and Thorold, Ont., and Shawinigan Falls, Que.

28,428. June 11.—Ordering G.T.R. to build farm crossings for J. B. Moffatt, A. Boucher, D. Duchene, J. Duchene, A. Champagne, and W. Roy, in Nelson Tp., between Dosquet and Lyster, Que.

28,429. June 12.—Authorizing Vancouver, Victoria & Eastern Ry. & Nav. Co. (G.N.R.), to remove station building at Lincoln to Colebrook, B.C., and replace it with a car body.

28,430. June 12.—Authorizing C.P.R. to operate over interlocking plant at Kempton, Ont.

28,431. June 12.—Authorizing C.P.R. to build spurs for Western Canada Steel Co., Redcliffe, Alta.

28,432, 28,433. June 12.—Authorizing Canadian Northern Ontario Ry. to rebuild bridges over Christie Road, Foley Tp. and Front St., Thorold, Ont.

28,434. June 13.—Authorizing London & Port Stanley Ry. to build branch line between G.T.R. and Tibot St., and to extend the freight shed track south to Kain St., St. Thomas, Ont.

28,435. June 12.—Extending to July 15, time within which Canadian National Rys. may build third class station at Durban, Man.

28,436. June 12.—Ordering C.P.R. to file supplement to tariff W. 2,397, adding to item 87A of supplement 20, the 8th class rating for carload shipments of not less than 30,000 lbs. on all items of poultry food enumerated, and dismissing application of Taylor Milling & Elevator Co., Lethbridge, Alta., for privilege of including l.c.l. lots of poultry food with grain products at carload rates.

28,437. June 13.—Approving G.T.R. location and detail plans of passenger shelter at Jamiesons Siding, Ont.

28,438. June 13.—Authorizing C.P.R. to build extension to spur for North American Collieries Ltd., Edmonton, Alta.

28,439. June 13.—Authorizing Canadian National Rys. to build Y in n.e. ¼, Sec. 14, Tp. 26, Range 2, west 3rd meridian, Sask.

28,440. June 13.—Authorizing Canadian Northern Ontario Ry. to rebuild bridge over Irwin Creek, Laura Tp., Sudbury District.

28,441. June 12.—Approving Canadian Northern Quebec Ry. plans of dam across North River for Canadian Consolidated Rubber Co., St. Jerome, Que.

28,442. June 14.—Authorizing C.P.R. to build drainage for conveying water from its tracks between mileage 21.5 and 23.0, near St. Cleophas, Que.

28,443. June 13.—Authorizing C.P.R. to divert Fort Ellice Trail at the east end of Rocanville station grounds, Sask.

28,444. June 13.—Authorizing City of Ladysmith, B.C. to make highway crossing over Esquimalt & Nanaimo Ry., north of station.

28,445. June 12.—Authorizing C.P.R. to remove agent at Illecillewaet, B.C., caretaker to be appointed.

28,446. June 17.—Authorizing Canadian National Rys. to cross highways on its Jackfish Lake Branch, through Tps. 51 to 55, Ranges 21 to 24, west 3rd meridian, Sask.

28,447. June 14.—Authorizing C.P.R. to build spur for Peterborough Cereal Co., Peterborough, Ont.

28,448. June 18.—Ordering Grand Trunk Pacific Ry. to make highway crossing over its tracks at mileage 1137.7, Fort George District, B.C., construction and maintenance to be paid by British Columbia.

28,449. June 18.—Amending order 28,417, June 10, re removal of agent at Baxter station, Ont.

28,450. June 13.—Relieving Grand Trunk Pacific Ry. from providing further protection at crossing of main line between Saskatoon and Yorath Jct., Sask.

28,451. June 18.—Approving C.P.R. plans of bridge to be built at Hunter St., Peterborough, Ont.

28,452. June 18.—Authorizing Grand Trunk Pacific Ry. to make crossing over its tracks at mileage 1115, Port George District, near Croydon, B.C., construction and maintenance to be paid by the province.

28,453. June 18.—Authorizing Algoma Eastern Ry. to discontinue signalman at crossing of its main line by Canadian Copper Co.'s spur at Copper Cliff Jct., Ont.

28,454. June 18.—Authorizing City of St. Boniface, Man. to make highway crossing over C.P.R. at Dupuy Ave.

28,455, 28,456. June 16, 17.—Authorizing Hydro Electric Power Commission of Ontario to build power canal and construction railway across Toronto & Niagara Power Co.'s and Toronto, Niagara & Western Ry.'s right of way in Stamford Tp., Ont.

28,457. June 24.—Approving C.P.R. bylaw authorizing Vice President, Freight Traffic Manager, Assistant Freight Traffic Manager, Eastern Lines, and Assistant Freight Traffic Manager, Western Lines, to issue tariffs of tolls for carriage of freight upon its railway and vessels, and also authorizing the Passenger Traffic Manager to issue tariffs of tolls for passengers.

28,458. June 23.—Approving G.T.R. plan of location and details of stock pens to be built at Thornbury, Ont.

28,459. June 23.—Authorizing Grand Trunk Pacific Ry. to build spur for Dome Mountain Lumber Co. at mileage 1189.23, British Columbia.

28,460. June 23.—Authorizing Canadian Northern Ontario Ry. to rebuild bridge at Orient Bay, mileage 43.5 from Jellicoe, Ont.

28,461. June 23.—Authorizing C.P.R. to build extension to passing siding at mileage 24.75, Prescott Subdivision, Ont.

28,462. June 19.—Authorizing C.P.R. to rebuild bridge 65.1 over Mississippi River, near Lennoxville, Ont.

28,463. June 20.—Authorizing G.T.R. to rebuild bridge carrying highway over its tracks at mileage 16.08, Hamilton Division, Ont.

28,464. June 19.—Authorizing C.P.R. to rebuild bridge 46.9 over Eaton River near Cookshire, Que.

28,465. June 19.—Approving G.T.R. plans of interlocking plant to be built at swing span in bridge over Richelieu River, at Beloeil, Que.

28,466. June 21.—Authorizing St. Laurent municipality, Man., to make highway crossing over Canadian National Rys. in Lot 14.

28,467. June 21.—Authorizing Grand Trunk Pacific Branch Lines Co. to cross highway at mileage 105.5, Sec. 48, Range 26, Tp. 28, west 2nd meridian, Sask.

28,468. June 21.—Authorizing Canadian National Rys. to cross and divert highway between Secs. 26 and 23, Tp. 48, Range 26, west 3rd meridian, Sask.

28,469. June 21.—Authorizing C.P.R. to divert road allowance on north boundary of north-east ¼ Sec. 20, Tp. 14, Range 32, west 1st meridian, at mileage 95, Sask.

28,470 to 28,473. June 23.—Authorizing Canadian Northwestern Ry. to cross 4 highways in Alberta.

28,474. June 21.—Authorizing Quebec, Montreal & Southern Ry. to build timber trestle over Salvia River at mileage 18½ from Junction to Bellevue, to replace steel structure there which was destroyed by landslide Apr. 16.

28,475. June 26.—Authorizing Ferris Tp., Ont., to make crossing over G.T.R. on Lot 28, Con. 5.

28,476. June 25.—Extending to Oct. 31, time for installation of interlockers at crossing of Canadian National Rys. by Fort William Municipal Ry., at intersection of Victoria Ave. and Vickers St., Fort William, Ont.

28,477, 28,478. June 19.—Authorizing Eastern Canadian Passenger Association, to publish for three weeks in Canada Gazette, rule 23 for regulations governing baggage car traffic in Canada, respecting free storage period, and rule 26 (d) of regulations governing baggage car traffic respecting notice of nondelivery, loss or damage to baggage.

28,479. June 25.—Ordering that crossing by Vancouver, Victoria & Eastern Ry. and Navigation Co. of British Columbia Electric Ry. on Harris St., Vancouver, be protected by interlock-

ing plant with derails on V.V. & E. Ry. and signals on B.C.E.R.

28,480. June 17.—Authorizing Eastern Canadian Passenger Association to publish general orders 191 and 262, May 26, 1919 and May 8, 1919, respectively, re rules governing baggage car traffic, in two issues of the Canada Gazette.

28,481. June 25.—Approving proposed G.T.R. passenger train service between Montreal and Ottawa, effective June 29.

28,482. June 26.—Ordering Pere Marquette Rd. within 30 days to furnish an adequate supply of drinking water at Blenheim station, Ont.

28,483. June 28.—Suspending, pending hearing, cancellation by Bell Telephone Co. of district rates between Weston and Islington, New Toronto; Dundas and Hamilton; Ridgeville-Welland and Marshville; Wellandport and Smithville; and Rockwood and Guelph, Ont.

28,484. June 19.—Authorizing C.P.R. to connect interchange track with St. John & Quebec Ry. at mileage 49.22, Shogomac Subdivision, N.B.

28,485. June 24.—Approving C.P.R. plan F-14-8B, June 10, standard bridge warning, and rescinding order 13,468, Apr. 20, 1911.

28,486. June 26.—Authorizing Canadian Northern Saskatchewan Ry. to cross and divert road between Sec. 35, Range 25, and Sec. 2, Range 26, Tp. 1, west 2nd meridian, Sask., 400 ft. west of location approved by order 24,612, Dec. 1, 1915.

28,487. June 30.—Authorizing Canadian National Rys. to rebuild bridge over Trent River at Glen Ross, Ont.

28,488. June 24.—Approving Niagara, St. Catharines & Toronto Ry. of proposed interlocking plant at crossing at G.T.R. on Elm St., Port Colborne, Ont., and rescinding order 27,545.

28,489. June 27.—Ordering Canadian Northern Quebec Ry. to build shelter and platform at Fitzgerald, Que., and to stop local trains 81 and 82 regularly for milk traffic.

28,490. June 30.—Authorizing C.P.R. to build Y at mileage 92.65, Sherbrooke Subdivision, in Bolton Tp., Que., within three months.

28,491. June 30.—Authorizing C.P.R. to rebuild bridge 33.7 over Stulkawhits Creek, Cascade Subdivision, B.C.

28,492. June 27.—Recommending to Governor in council for sanction, St. Lawrence and Adirondack Ry. operating rules.

28,493. June 27.—Recommending to Governor in council for sanction U.S. Railroad Administration's rules for Ottawa & New York Ry.

28,494. June 27.—Extending to June 5, 1920, time for building C.P.R. spur for Dryden Timber and Power Co., near Eagle River, Ont.

28,495. June 30.—Approving C.P.R. station to be built at Horizon, Sask.

28,496. July 8.—Approving portion of C.P.R. Langdon North Branch location mileage 71 to 122.74 and authorizing the crossing of a number of highways at grade.

28,497. July 7.—Ordering Toronto, Hamilton and Buffalo Ry. to convey certain lands to Saltfleet Tp., Ont., for highway purposes, and authorizing C.P.R. to build bridge over its tracks near Vinemount, Ont.

28,498. July 3.—Ordering C.P.R. to make the necessary arrangements forthwith to have a man on duty at St. Hugues station, Que., to attend last train at night and close up premises.

28,499. July 4.—Relieving Canadian National Rys. from providing further protection at crossing of Richmond Road, Bells Corners, Ont.

28,500. July 3.—Approving agreement, June 21, between Bell Telephone Co. and Normanby Telephone Co.

28,501, 28,502. July 4.—Authorizing Canadian National Rys. to build spurs for P. Burns & Co., Prince Albert, Sask., and Excelsior Coal Co., near Wayne, Alta.

28,503. July 4.—Authorizing C.P.R., pending further order, to remove station agent at Windy Lake, Ont.

28,504. July 3.—Authorizing G.T.R. to operate over C.P.R. Weyburn-Lethbridge and Soo Branches, at Weyburn, Sask., until Jan. 1, 1920, pending installation of interlocking plant, crossings to be protected by flagmen.

28,505. July 4.—Amending order 28,368 re Canadian Northern Western Rd., location from mileage 92.40 to 128.68.

28,506. July 3.—Extending to July 31, time within which the work required to be done at Chatham, Ont., by the G.T.R. under order 27,940, Dec. 16, 1918, may be completed.

28,507. July 4.—Authorizing Niagara, St. Catharines and Toronto Ry. Co. to build spur for Reid Bros., Niagara Falls, Ont.

Canadian National Railways Earnings.

The gross earnings of the system from Jan. 1, compared with those for the same period of 1918, are as follows:

	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
	\$40,009,585	\$35,444,230

Approximate earnings for three weeks ended July 21, \$4,939,254, against \$3,491,894 for same period 1918.

Canadian Northern Railway Earnings.

	1919	1918
January	\$ 4,026,000	\$ 2,715,300
February	3,863,800	2,691,000
March	3,554,350	3,436,300
April	3,878,149	3,958,100
May	4,337,750	3,762,000
	\$19,160,049	\$16,562,700

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	Increase or decrease
Jan.	\$13,028,328	\$11,474,816	\$1,553,512	\$ 385,519
Feb.	11,064,167	10,083,051	981,116	390,218
Mar.	12,374,182	10,835,138	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
	\$76,722,267	\$64,535,789	\$12,186,478	*\$2,520,506
Incr.	\$ 4,709,981	\$ 7,320,487		
Decr.			\$ 2,520,506	

*Decreases.
Approximate earnings for three weeks ended July 21, \$9,647,000 against \$8,119,000 for same period 1918.

Grand Trunk Railway Earnings, Expenses, Etc.

The figures as reported are in pounds sterling, and are converted into currency at \$4.87.

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

	Gross	Expenses	Net	Increase or decrease
Jan.	\$ 4,405,402	\$ 5,121,779	\$ 716,377	*\$ 81,816
Feb.	4,090,800	4,401,019	310,219	660,372
Mar.	5,517,223	4,676,174	841,049	763,616
Apr.	5,360,896	4,604,585	756,311	93,017
May	5,275,671	4,606,533	669,138	*\$6,525
	\$24,649,992	\$23,410,090	\$1,239,902	*1,398,664
Incr.	\$ 5,727,120	\$ 4,328,456		
Decr.			\$ 1,398,664	

xDeficits. *Decreases.

freight shed and team tracks at Kingston, Ont.
 28,543. July 15.—Ordering Canadian National Rys. to build freight and passenger shelter station and one-car stock pen and shed at Katrine, Man.
 28,544. July 14.—Ordering C.P.R. to build permanent culvert with opening 20 ft. wide at mileage 37.56, near Golden, B.C.
 28,545. July 16.—Authorizing City of Port Arthur, Ont., to build temporary roadway across C.P.R. at northerly end of city.
 28,546. July 16.—Authorizing City of Port Arthur, Ont., to build temporary roadway across C.P.R. at northerly end of city.
 28,546 and 28,547. July 16.—Ordering Michigan Central Rd. to install wig-wag signals at Ferry Road crossing and Bender Ave., Niagara Falls, Ont.
 28,548. July 15.—Authorizing London & Port Stanley Ry. to build a footpath on its trestle over Kettle Creek, Yarmouth Tp.
 28,549. July 21.—Authorizing C.P.R. to build a grade across Victoria St., Cobourg, Ont., spur to connect with the Hydro Electric Power Commission's pole yard tracks mileage 32.78, Oshawa Subdivision.
 28,550. July 18.—Authorizing C.P.R. to build branch for C. H. Boyd, Moose Jaw, Sask.
 28,551. July 21.—Amending order 14,485, Aug. 2, 1911, re authorized crossings.
 28,552. July 21.—Authorizing Esquimalt & Nanaimo Ry. to rearrange spur, built for Imperial Munitions Board under, order 26,506.
 28,553. July 21.—Authorizing G.T.R. to rebuild bridge between Lots 150 and 151 in Range St. Edward, and Lot 313, St. Patrick. St. Liboire Parish, Que.
 28,554 and 28,555. July 18.—Authorizing Canadian National Rys. to rebuild bridges over Burnt Creek, Neelon Tp., Ont., and over Shewanaga River, mileage 16.5, from Parry Sound, Ont.
 28,556. July 21.—Approving G.T.R. plan showing elevation and location of station and freight house at Gravenhurst, Ont., and authorizing it to build three additional tracks across Church St., Gravenhurst, Ont.
 28,557. July 18.—Authorizing Canadian National Rys. to rebuild bridge over Irwin Creek, mileage 89.10 from Parry Sound, Ont., and rescinding order 28,440.
 28,558. July 22.—Approving Esquimalt & Nanaimo Ry. crossing of Burrard Sawmills, tracks to Deep Bay, B.C.
 28,559. July 22.—Authorizing Canadian National Rys. to build branch line for Imperial Oil Co., Dauphin, Man.
 28,560. July 18.—Authorizing Canadian National Rys. bridge over Laronde River, mileage 74.7 from Brent, Ont.
 28,561. July 22.—Approving form A and B containing conditions of acceptance of Marconi-grams for transmission via C.P.R. and Great North Western Telegraph and Western Union Telegraph Cos., respectively.

Fuel Consumption on Railways in 1917-18.

The consumption of fuel of all kinds on Canadian railways, as reported by the Railways Department, increased from 10,130,799 tons in the year ended June 30, 1917, to 10,173,344 tons in the year ended June 30, 1918. The average cost for 1917-1918 was \$5.17 a ton, against \$3.63 a ton for 1916-1917. Following are details:

Class of locomotive.	Coal.		Wood.		Other Fuel.		Total.	Miles Run.
	Anthracite.	Bituminous.	Hard.	Soft.	Oil.	Charcoal.		
Freight	1,143	5,644,451	22,093		29,869,871	59,057	5,852,935	63,921,041
Passenger	665	2,002,343		12,915	14,118,330	39,738	2,092,912	40,870,513
Mixed	1,475	435,316	159	2,394	1,181,725	3,985	445,058	7,897,536
Switching		1,427,370		8,047	3,872,502	21,124	1,454,384	28,625,512
Special		307,143		972	3,465,100	4,211	328,055	5,438,603
Total	3,283	9,836,623	159	46,421	52,507,528	128,115	10,173,344	146,753,205

The total quantity of the fuel consumed by locomotives in the different services, together with the quantity consumed, and the cost of the same per 100 miles, were as follows:

	Tons consumed.		Tons consumed and cost per 100 miles.			
	1917-18	1916-17	1917	1916	1917	1916
Freight	5,852,935	5,675,606	0.15	8.23	\$47.30	\$29.87
Passenger	2,092,911	2,127,621	5.12	4.83	26.47	17.53
Mixed	445,058	524,917	5.64	6.09	29.15	22.10
Switching	1,454,384	1,463,820	5.09	5.13	31.17	18.62
Construction and special	328,055	338,835	6.03	2.18		7.91
	10,173,344	10,130,709				

Government Loan for Canadian Northern Railway—The House of Commons on June 5, voted \$35,000,000 as a loan, repayable on demand, with 6% interest, to be used to meet expenditures made or indebtedness incurred in paying interest on securities in excess of amount available from net earnings, or paying maturing loans of the Canadian Northern Ry. or any company included in the C.N.R. system, and for construction and betterments; the loan to be secured by mortgage upon the undertaking of the C.N.R. system, containing such terms and conditions as the government may approve.

28,508. July 8.—Approving agreement Apr. 1919, between Bell Telephone Co. and Ayton Telephone Co.
 28,509. July 8.—Approving plan of station at Mille Roches, Ont., to be built under order 28,226, Apr. 10.
 28,510. July 8.—Recommending to Governor in council for sanction C.P.R. bylaw 97, amending general train and interlocking rules.
 28,511. July 8.—Ordering C.P.R. to provide proper station building at Vantage, Sask.
 28,512. July 8.—Extending time within which C.P.R. is to complete installation of automatic bell at crossing of Bull St., Woodstock, N.B., for 30 days from date.
 28,513. July 9.—Ordering C.P.R. to connect N. M. Paterson & Co.'s elevator spur on Montreal St., Fort William, Ont.
 28,514. July 8.—Authorizing C.P.R. to rebuild 12, Greere Ave. subway, Montreal Terminals.
 28,515. July 10.—Authorizing Montreal & Southern Counties Ry. to build siding from Common St., Montreal, crossing G.T.R. and Montreal Tramways Co.'s tracks 1581 and 1582, St. Anne's ward.
 28,516. July 10.—Ordering Grand Trunk Pacific Ry. to provide a one-car stock pen at Cedoux station, Sask., within 30 days.
 28,517. July 8.—Approving location of portion of C.P.R. Archive-Wymark Branch, mileage 0 to 25.2.
 28,518. July 11.—Dismissing complaint of Ontario Paper Co., Thorold, Ont., against rate of 22c per 100 lbs. on newsprint from Thorold to Chicago charged by G.T.R.
 28,519. July 9.—Authorizing Canadian Northern Saskatchewan Ry. to build across and divert highway in the n.e. ¼, Sec. 33, Tp., 22, Range 9, west 3rd meridian.
 28,520. July 12.—Extending to Oct. 1, time within which C.P.R. may complete spur track authorized by order 26,728.
 28,521. July 9.—Authorizing C.P.R. to build spur for Colonial Co., mileage 90.52, Chalk River, Subdivision.
 28,522. July 10.—Authorizing G.T.R. to build spur for Libby, McNeill & Libby of Canada, Ltd., Chatham, Ont.
 28,523. July 12.—Ordering Grand Trunk Pacific Ry. to appoint caretaker at LeRoss, station, Sask.
 28,524. July 12.—Approving Canadian National Rys. plan, showing alterations to station building at Manville, Alta.
 28,525. July 10.—Authorizing Grand Trunk Pacific Ry. to cross and divert highway at mileage 629.8 in east half of Sec. 10, Tp. 43, Range, 1, west 4th meridian, Alta.
 28,526. July 12.—Authorizing Kettle Valley Ry. to open for traffic, extension of its North Fork Branch from mileage 19, Grand Forks to Franklin Camp, to mileage 20.3.
 28,527. July 14.—Authorizing Alberta Public Works Department to make highway crossing over C.P.R. in n.e. ¼, Sec. 12, Tp. 40, Range 27, 4th west meridian.
 28,528. July 10.—Authorizing G.T.R. to build timber trestle 135 over creek at mileage 31.20, from Lindsay, Ont.
 28,529. July 11.—Approving Esquimalt & Nanaimo Ry. bylaw 63 and rescinding orders 5,126 and 25,641.
 28,530. July 11.—Dismissing application of holders of property and ratepayers at St. Eustache, Que., for order directing Canadian National Rys. to build station at a point on Range du Lac, near the Oka Road.
 28,531. July 9.—Approving agreement between Bell Telephone Co. and Byron Telephone Co., and rescinding order 21,902.
 28,532. July 10.—Approving plan showing dwarf signal 7, Michigan Central Rd., changed to a high signal to improve engineers' view for tower 2, Windsor, Ont.
 28,533. July 9.—Authorizing Canadian Northern Saskatchewan Ry. to build across and divert highway in n.w. ¼, Sec. 19, Tp. 22, Range 9, west 3rd meridian.
 28,534. July 11.—Authorizing C.P.R. to make highway crossing between Secs. 2 and 3, Thesalon Tp., Ont.
 28,535. July 10.—Authorizing Saskatchewan Highways Department to make highway crossing over Canadian National Rys. in s.w. ¼, Sec. 5, Tp. 11, Range 4, west 3rd meridian.
 28,536. July 11.—Authorizing G.T.R. to use bridge 125, over Pottawattami River, Owen Sound, Ont.
 28,537. July 12.—Dismissing Chicoutimi Pulp Co.'s complaint, relative to rates on woodpulp from Chicoutimi and Val Jalbert, Que., to U.S. points.
 28,538. July 9.—Authorizing C.P.R. to divert road allowance at mileage 16.6, Lac du Bonnet Subdivision, Man.
 28,539. July 10.—Authorizing Michigan Central Rd. to build spur for Imperial Tobacco Co., Mersea Tp., Ont.
 28,540. July 12.—Relieving C.P.R. from providing further protection at crossing east of Oshawa, Ont.
 28,541. July 14.—Dismissing application of residents, Notre Dame de Grace Ward, Montreal, for order authorizing City of Montreal and C.P.R. to build subway at Oxford Ave.
 28,542. July 14.—Ordering C.P.R. to build new

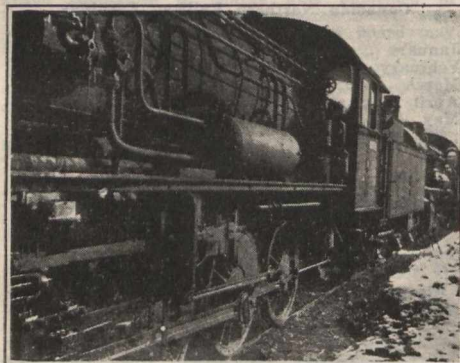
Features of German Rolling Stock.

The rolling stock handed over to the allies by the Germans in accordance with the armistice terms, contained many points of constructional design that were of interest to anyone accustomed only to American practice. The writer was fortunate in being able to examine quite a number of locomotives, as well as other freight and passenger equipment in France and Belgium.

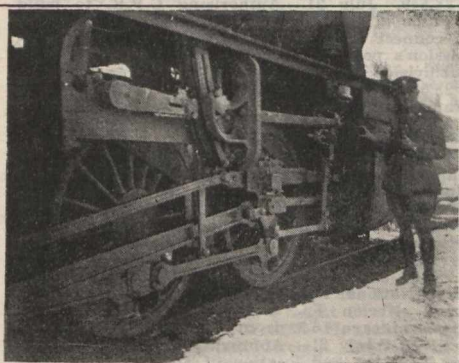
The freight equipment seen, was almost entirely of the same type—small 4-wheel wooden box cars, with the usual

vailing type, but as the clearances on the continental lines are considerably greater than in England, they are much more roomy, with wider and higher compartments and corridors.

The accompanying illustrations are of some of the motive power taken over. There is a wide variety of types, of various ages. The illustrations show some of the refinements introduced in the latest types. In this particular instance, the locomotive is an 8-wheel switcher, built in 1918, and consequently of the



German Locomotive Feed Water Heater.



German Locomotive Walschaert Valve Gear.

wooden side slide door. They give the impression of more careful finish than does the American car, corresponding in that regard to the finish customary with the usual American refrigerator cars.



German Locomotive Feed Pump and Markings.

Many of them were in general use for transporting troops, and are much more air-tight than the usual box cars.

Many types of passenger cars have been handed over, varying from the older, short cars, to the modern express service cars, which appear to be from 60 to 70 ft. long. Some of the more recent ones are very handsomely finished both inside and out, and some are of a semi-steel construction. Of these recent cars, the side corridor car, similar to recent English practice except that they have end entrances only, seems to be the pre-

most recent type. On the running board is a feed water heater of simple design, arranged in a very accessible position. The lagged pipe along the top of the running board carries the exhaust steam back to the heater. The locomotive may be operated either with or without the heater, of the simple system of piping shown. Just back of the check valve, there is three-way valve, from which are four pipe connections. The front one is to the check valve; the central one, running to the rear, is the direct feed connection; while the top and bottom ones connect with the heater. When operating without the heater, the water comes through the direct connection, straight through the 3-way valve, and on to the check valve. When operating with the heater, it passes from the direct connection, back through the heater by way of the 3-way valve, and thence back through the 3-way valve to the check valve. The whole operation is controlled at the 3-way valve.

Another interesting feature to be noted is the feed water pump, located on the running board alongside the air pump, immediately in front of the cab. This is a simple, vertical-acting pump, in general appearance very similar to the air pump. The pump must have proved very dependable, as no auxiliary pump or injector was applied on the locomotive examined.

The type of Walschaert valve gear used on the recent locomotive is shown. In most particulars, it seems to be very similar to existing American practice.

The allies' practice of marking the German rolling stock, is shown on the locomotive cab. All the German rolling stock seen, was from the several German state railways and all were adorned with the German double eagle. This was very unceremoniously obliterated by the simple means of a rough paint daubed cross over the double eagle plate. Adjoining is stencilled the allies' marking, which are in three lines: "Cirm," for the operating commission; "Guerre," war service; and either

"France," "Anglais," "Belge," or "Etats-unis," depending on the ally to which they are allocated. All acquired rolling stock is marked in this manner.

From a motive power standpoint, the situation that prevailed after the armistice was most interesting, as there were then operating, frequently on the same lines, French, Belgian, British, American and German locomotives, all quite distinctive in design. The same applied in a somewhat lesser degree, to freight and passenger equipment. Were it not that each army looked after the maintenance of its own equipment, the problem of maintenance and repair would have been a very troublesome matter.

Railway Finance, Meetings, Etc.

Canadian Northern Ry.—The House of Commons on July 5, passed a vote of \$35,000,000 by way of loan at 6%, repayable on demand, to be used to meet expenditures made, or indebtedness incurred, in paying interest on securities in excess of the amount available from net earnings, or paying maturing loans of the C.N.R. or any company included in the C.N.R. system and for construction and betterments; the loan to be secured by mortgage upon the undertaking of the C.N.R. system, the mortgage to set out such terms and conditions as the government may approve.

W. A. Read and Co. are credited by a press dispatch as stating that the \$10,000,000 C.N.R., 2½-year and 5-year notes offered by them on a 6% basis have all been sold. The last previous issue of C.N.R. notes secured by familiar collateral matured Sept., 1918, and was paid off in cash and the new issue is in effect a deferred refunding operation.

Duluth, South Shore and Atlantic Ry.—The annual report for 1918, of this C.P.R. subsidiary, shows a deficit after payment of taxes and fixed charges of \$417,131, compared with a deficit of \$69,400 for 1917. The U.S. Railroad Administration's operating account is not given in the report.

Grand Trunk Pacific Ry.—Interest on the company's bonds to the amount of about \$2,000,000 fell due July 1. An Ottawa dispatch, July 1, stated that it had been intimated that the Grand Trunk Ry. would take care of its liability for such of the bonds as it had guaranteed. The Dominion Government is the guarantor of the balance.

Timiskaming and Northern Ontario Ry.—Passenger earnings for April, \$79,431.89; freight earnings, \$155,056.22; total earnings, \$234,488.11, against \$55,547.60 passenger earnings; \$238,616.16 freight earnings; \$294,163.76 total earnings, for April, 1918.

Watchmen at Crossings. The Board of Railway Commissioners has issued a circular stating that it has considered replies from various railways, in answer to its letter of Mar. 4, re watchmen at crossings, where there are more than four tracks, when gates are out of order, and is of the opinion that it will be sufficient for the present if the railway companies undertake to appoint two watchmen in such cases, and when the traffic or other conditions justify the same, for the public's adequate protection. Railway companies are requested to file an undertaking on the lines as set above, together with a statement in detail of the crossings involved.

The Grand Trunk Railway's Chairman States Company's Case for Consideration.

A special general meeting of the Grand Trunk Ry. Co. of Canada was in London, Eng., June 30, for the purpose of submitting the Grand Trunk Act, 1919, together with a resolution authorizing the directors to create and issue the perpetual 4% consolidated debenture stock under the powers conferred by the act.

A. W. Smithers, M.P., the company's chairman, who presided, said: "The bill we introduced into the present session of the Canadian Parliament to increase our borrowing powers by the creation of £2,500,000 4% debenture stock, has been passed by parliament and received the royal assent, and we have called you together today for the purpose of obtaining your approval of the act. As the government has not yet made any proposition to us beyond its original and only offer, it is necessary for the company to carry on its business in the meantime and perform its duties to the public, and the powers given under this act are to enable us to carry out necessary financing. This is the act which I told you at our special meeting on Mar. 21 was held up by the parliamentary committee in Canada. The holding up of the act was naturally an aggravation of our difficulties, and I expressed the great regrets of the board that such action should have been taken. I am glad to say, as the result of that special meeting—at which, you will remember a resolution was passed conveying to the government that the original and only offer made by the government was insufficient to effect a friendly settlement—the proprietors desired the board to convey to the government their wish for a friendly settlement.

"The resolution of the meeting was conveyed to the then acting Premier, Sir Thos. White, by our President in Canada, H. G. Kelley, and Sir Thos. White promised that the bill would proceed, and it is that bill to which we ask your assent today. As you know, we were able to form a committee to consult with on behalf of the shareholders, of some of the first bankers in London, and we agreed on terms which we thought we could recommend the shareholders to accept, and Mr. Kelley has been in negotiation with the government since April. Sir Thos. White announced in the Canadian House of Commons on more than one occasion that the government did not wish to treat us harshly. Still, nothing was done. Of course, we realized that the Prime Minister was absent in Europe attending the Peace Conference. Sir Robert Borden returned to Canada about May 25, and we hoped that the government would then make a move. Unfortunately, labor troubles had developed, and this may have prevented Sir Robert giving the Grand Trunk Ry. negotiations the attention for which we were all anxiously waiting. In my speech on Mar. 21, supplemented by the one I made at the annual meeting on April 28, I fully stated our case, and both statements were unanimously approved.

"We are in our present position today from circumstances entirely beyond our control—viz: enormously increased expenses, arising from high wages and increased cost of material, and not being allowed sufficient increase of rates to meet the increased expenditure. In one way or another, the governments of Canada, America and Great Britain have

had to assist the railways under present exceptional conditions, and the only railway, left to its own resources is the G.T.R., the oldest railway in Canada, which has rendered 65 years of service, which has received practically no assistance from the government in all that long period, and which has rendered splendid service to the country during the war, as the following figures will show:—Our gross traffic in 1913, the year before the war, was £9,133,000, and we were able to pay the full dividends for the year on the guaranteed and first and second preference stocks, and 2½% on the third preference, or a total amount of £973,000 divided among the shareholders for 1913. In 1918 our gross traffic was £12,655,000, an increase of £3,522,000 on that of 1913, and we distributed £973,000 less; or, in other words, we only covered our fixed charges, and the shareholders received nothing. Similar conditions prevailed in 1917. Thus, for two years, when the company was carrying immense traffics and performing splendid service to Canada, the shareholders received nothing. Thus, had we been treated as the British Government treated the British railways, the shareholders would have received £973,000 in each of the years 1917 and 1918, instead of nothing, or if the immense traffic we carried in those years had been carried under pre-war conditions, we could have paid a dividend on the ordinary stock. The government knows we wish to make a friendly settlement; the government has declared in parliament it does not wish to deal harshly with us.

"In Jan., 1918, the government asked the board to name the amount we would be prepared to recommend the shareholders to take for their property as an annual payment beyond the fixed charges. We did so. The government did not accept our offer, and made a counter offer in Mar., 1918. Ever since that time we have been negotiating. We have continually reduced our terms, in order to do our utmost to come to a friendly agreement. The government has not altered its terms and it is impossible on its terms to come to a friendly agreement, as their acceptance would mean, as I have pointed out on several occasions, the confiscation of a considerable portion of the shareholders' property. The difference now between us, although vital to the attainment of a friendly settlement, is comparatively a small thing for Canada. We are not asking for any consideration for any stock only represented by paper; we are only asking for fair consideration for actual money actually put into the undertaking. The money for which we ask consideration was not invested with the idea of great reward. A little over 4% interest was the inducement to the investor, and such a low rate certainly showed the faith of the British investor in the stability and future of Canada. Was that faith justified or was it not? I for one cannot doubt the answer, but is it right, when we have just emerged victoriously from the most terrible war in history, that a company which has so largely contributed to the prosperity and up-building of Canada, and which has rendered such splendid service during that war, contributing its full share to its success, should be left for nearly two years in a state of anxious suspense?

"There are thousands of poor and suf-

fering shareholders, scattered throughout the length and breadth of the British Isles, who have either put their hard-earned money into the company expecting a moderate return, or they have invested their money in their belief in the future of Canada, which has been so eloquently and frequently expatiated upon by Canadian statesmen. In the terms we have proposed we have taken no account of the future, and we could only carry those terms by asking you—all of each class of security other than the fixed charges—to make some sacrifice in order to arrive at a friendly settlement. Surely it cannot be for the honor or interest of Canada, the leading British Dominion overseas, to keep these anxious people longer in suspense. Their suffering is very real, and I again on their behalf and on yours, appeal to the Canadian Government for a fair and speedy settlement."

In reply to remarks by shareholders, the chairman said: "I am very much obliged for the various criticisms which have been made, and I heartily agree with nearly all that has been said, but I am sure you will realize that, whatever our difficulties are, those difficulties will be best surmounted by a united board and a united body of shareholders. With regard to Mr. Woodward's suggestion as to asking the Imperial Parliament to interfere in this matter, well I will not go so far as to say that under no circumstances could that be done, but I will go so far as to say that it would be a most delicate matter, and might, except under very special circumstances, which have not yet arisen, do considerable harm. The Canadian people and the Canadian Parliament are very jealous of their independence, and I think the Imperial Parliament would at once decline to interfere. If it did interfere, it would only be under quite extraordinary circumstances, which have not yet arisen. As to Mr. Woodward's opinion that it is the desire of the Canadian Government to get our property at a bankrupt price, I am bound to say that the delay which has gone on for such a long time is some excuse for people to hold that opinion. I cannot, however, but believe that a nation which has behaved to the mother country as Canada has during the war must be filled with high and noble ideals, and therefore, until it is proved, I for one refuse to believe that the Canadian Government could entertain such an unmentionable design. I hope we shall not believe it until it is driven into us by hard facts, which we hope will not arise. As to Mr. Sherme's question about the guarantee, Mr. Rodocanachi has explained to him that the guaranteed stock was originally stock issued long before our time, and was given to the Great Western Ry. of Canada in exchange for the latter company's ordinary shares, and was guaranteed to that extent on the year's earnings and payable before our preference."

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

	Acres.
Central Canada Ry.....	204.27
Qu'Appelle Long Lake and Saskatchewan Rd. and Steamboat Co.....	161.00
Total	365.27

Fuel Controller's Report on Coal Conservation, Shipments, Etc.

The final report of C. A. Magrath, Fuel Controller to the Dominion Government, contains a review of the work done from the establishment of the office in June, 1917, to Mar. 28, 1919. The first part of the report deals with the fuel situation in Canada during the war, and is mainly of historical interest; the second part attempts to forecast fuel conditions of the future with particular reference to means of promoting the conservation of coal.

The economies effected by railways during the war are referred to as follows:—

"The principal saving in fuel effected by the railways was accomplished through a reduction in the number of passenger trains operated, and the general slowing up of schedules to a speed which permitted of a maximum efficiency for the coal consumed. They further co-operated by making use of old ties, which had in the past been burned along the right of way, and in generally promoting conservation by cautioning their employes against overloading locomotive tenders, and preventing waste of steam through locomotive safety valves. As far as possible bituminous coal was substituted for anthracite in heating waiting rooms.

"In the work of coal conservation, as in other lines of war activities the efforts of the railways throughout the Dominion were co-ordinated, and in a broad way directed, by the Canadian Railway War Board. Not only were fuel saving measures adopted by various lines themselves, but their efforts extended to effecting conservation of fuel in its larger aspects. Preference was given to coal mines in the matter of coal mining supplies, their demands ranking second only to those of actual war materials. The railways co-operated with the Fuel Controller in publicity work designed to promote the early stocking of coal, and special attention was given to coal carrying routes, so as to maintain an uninterrupted flow from Canadian mines or United States gateways to our consuming areas.

"In the west the increase of tonnage handled between Apr., 1918, and the end of the year was 25% more than that handled during the same period in the previous year. The heavier loading of cars also contributed a saving of coal, which has been estimated at 256,972 tons. Through the elimination of duplicate and continual passenger train services an additional saving of 600,000 tons was effected. During Jan. and Feb., 1918, over 5,000 cars (200,000 tons) of coal were worked through the Niagara gateway for points in Ontario, and through the diversion of box cars to the Delaware and Hudson, an increase of 14,457 cars (505,000 tons), destined principally for points in the Province of Quebec, was secured.

"On the railways themselves, employes were drilled in the most scientific methods of firing both on locomotives and stationary boilers; and in locomotive houses and shops the utilization of scrap and waste wood in place of coal was arranged for. Steam also was supplanted where possible through the utilization of electricity generated by water-power. In all, it has been estimated that not less than 1,000,000 tons of coal was

saved by Canadian railways during 1918."

In the second part of the report the Fuel Controller, after reviewing the sources of supply of coal and Canada's requirements, deals with the question of distribution. He points out that approximately 42% of the coal imported into Canada is brought in by ships, 46% by all rail, and 12% by car ferries. In connection with the car ferry routes, it is mentioned that there are two points of entry on Lake Ontario and four on Lake Erie. The storage accommodation at the different water route terminals is as follows:—

	Number of plants	Capacity tons	Rate of discharge per hour tons
St. Lawrence	44	1,766,000	7,807
Lake Ontario	9	28,750	230
Lake Erie	3	5,500	310
Lake Huron and Georgian Bay	52	815,300	4,783
Lake Superior	11	2,792,000	3,580
Sault Ste. Marie.....	4	715,000	1,405
Total	123	6,122,550	18,115

The equipment of ports in the Maritime Provinces is sufficient to handle the cargoes of small sailing vessels and barges, but not of large vessels, consequently during the last two years much difficulty was experienced in securing anthracite by water from New York. In order to provide against this difficulty in future it is suggested that the dockage and unloading capacity of these ports should be enlarged. Such cities as Toronto, Hamilton and even Ottawa, it is recommended, should eventually get in more coal by water, which would necessitate the construction of adequate unloading and storing facilities for which conditions are said to appear favorable. With reference to the importation of coal by rail one of the chief difficulties center about the Niagara gateway. The situation there is that, during the winter, especially, the Canadian railways are unable to accept freight in the quantity and at the rate at which it is delivered by the U.S. lines. In ordinary winter weather, Canadian railways are not in a position to handle much over 100 cars a day over this frontier. This is a serious matter, especially to southwestern Ontario, which, in view of the comparatively short haul from the Pennsylvania mines has depended in the past on all-rail coal, rather than on the development of water facilities on Lakes Erie and Ontario.

Railway Supplies Needed in Siberia

The Canadian Government Trade Commissioner at Vladivostok, Siberia, writes that Lt.-Col. MacFeat, British representative on the Inter-Allied Purchasing Committee, formed recently to obtain supplies required for the Siberian railway systems now under control of the Inter-Allied Railway Committee, has requested that Canadian manufacturers of railway materials send catalogues.

Canadian manufacturers in a position to supply rolling stock, rails or other railway supplies should send catalogues addressed to Lt.-Col. MacFeat, care of L. D. Wilgress, Canadian Government Trade Commissioner, Suifunskaya St. 10, Vladivostok, Siberia.

The Cost of Stopping an 8-car passenger train, weighing 623 tons, from a speed of 30 m.p.h., is said to be 61.4c.

Canadian Northern Railway Equipment and Other Liabilities.

The Minister of Railways stated in the House of Commons, June 30, that the volume of equipment trust obligations outstanding in the name of the Canadian Northern Ry., when that line was taken over by the Government, was \$13,526,000; there were \$2,659,000 of such securities outstanding executed in favor of the Fidelity Trust Co. of Philadelphia, but none executed in favor of the Case Fidelity Trust Corporation of Philadelphia. These bonds represent a direct mortgage on the equipment until such time as the bond issue is retired when the equipment becomes the property of the C.N.R. The total cost of C.N.R. equipment at the time the government took it over was \$61,398,385. Of this amount \$39,588,643 was pledged as security for the equipment bonds outstanding at that time. The Dominion Government are shareholders of the C.N.R., and, as such, do not necessarily assume all its liabilities, but the equipment trust bonds are a direct liability of the C.N.R. The only difference between a bond secured by equipment and a bond secured by mortgage upon the physical assets, is that the interest and sinking fund payable on account of equipment bonds are part of the working expenses of the railway, therefore they have priority over interest and sinking fund payments on the bonds secured by the physical assets.

The Minister of Railways also stated that the outstanding bonds of the C.N.R. system will remain a direct liability of the C.N.R. and subsidiary companies. The Government has arranged that if the net earnings of the C.N.R. are insufficient to pay the bond interest, the government will provide for such interest for the current fiscal year. The government are the owners of the C.N.R. capital stock and the title to the physical property is visited in the name of the C.N.R. This company is, therefore, directly liable for payment of the interest charges on the bonds issued on such property.

Doheney, Quinlan and Robertson, Ltd., has been incorporated under the Dominion Companies Act with authorized capital of \$2,000,000, and office at Montreal, to carry on business of general and railway contractors, engineers and builders, and allred operations. The Provincial directors are: H. Doheney, H. Quinlan, A. W. Robertson, G. A. Campbell, K. C., and J. Karry, advocate, Montreal. The first named has been engaged in railway contracting for some years, either independently or in association with M. J. O'Brien, while H. Quinlan and A. W. Robertson have been associated in carrying out a large number of Government works.

Hugh Doheney & Co., Ltd., has been incorporated under the Dominion Companies Act, with authorized capital of \$2,000,000 and office at Montreal to carry on business as general and railway contractors, engineers and builders, and various other businesses connected with the carrying out of public works. The provisional directors are Hugh Doheney, G. A. Campbell, K. C., A. Angers, J. Kerry, Mr. M. Hartley, Montreal.

Vapor Car Heating Co. of Canada, taken over the business of the Vapor Car Heating Co. Inc., Canadian branch at Montreal.

August, 1919.

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

Alaska.—When the United States Congress made the original vote for the construction of the Alaska Ry., the estimated cost of the line from Seward to Fairbanks was \$35,000,000. The vote asked for this year is \$12,000,000, and it is expected that \$4,475,000 more will be required for the next financial year, so this will bring the total cost of the work to \$50,436,971, an increase of 300.1 per cent. over the original estimated. Line is expected to be ready for operation in 1921. (April, pg., 190).

Alberta and Great Waterways Ry.—J. D. McArthur, President, is reported to have said in Edmonton, Alta., July 4, that a steam shovel had been sent out to a point north of Lac la Biche, where a gap of about 20 miles of track was unballasted. At the McMurray end of the line there remained about 35 miles of line to be ballasted and completed, and it was hoped to have this work finished this year. (May, pg., 253).

Athabasca, Grande Prairie and Fort Vermillion Ry.—The bill providing for the incorporation of a company to build a railway from the junction of the Athabasca and Solomon Rivers, northerly to the junction of the Smoky and Muskeg Rivers, thence through the Grande Prairie district northerly to Peace River Landing, and thence to Fort Vermillion, was passed by the House of Commons, and was read a second time in the Senate, but when up for the third reading, on July 2, it was held in connection with allegations concerning the cancellation of coal land leases held in the name of a German-American, and their re-issue to interests allied, with the promoters of the bill. The Senate ordered the bringing in for a return of correspondence, etc., in connection with the matter, and Sir James Lougheed, on behalf of the Government, made a statement of what had taken place. On June 26 the Senate appointed a special committee to investigate the matter, but it was announced, July 3, that the regranting of the leases to Colonel Shellington and C. A. Barnard had been cancelled. The proceedings in regard to the bill then fell through, and the House of Commons, on July 4, directed the return of fees to the promoter, less the cost of printing and translation. (April, pg., 190).

Canadian Niagara Bridge Co.—The Dominion Parliament has authorized the company to build 12 miles of railways in connection with its projected bridge, instead of 6 miles, as prevailed in the general traffic bridge across the Niagara River in the original act. The company was incorporated in 1918, to build a railway and general traffic bridge across the Niagara River, the Canadian end of the bridge to be located between Chippawa and Fort Erie, Ont. The provisional directors of the company are Lord Shaughnessy, J. N. Beckley, E. S. Cahill and W. P. Torrance.

When the measure came up for its second reading in the Senate, June 26, it was explained that, since the act of incorporation was passed in 1918, the Michigan Central Rd., the owner of the land over which the approaches to the bridge were to be built, had taken the land for its own purposes, and it would therefore be necessary for the bridge company to build from Welland to Bridgeburg, 12 miles. It was stated

that all arrangements had been made for the building of the line and the bridge; the necessary United States legislation has been passed, and the company desired to go on building of the bridge, in fact everything was ready for this purpose on the passing of the bill into law.

A press report of July 13 states that options have been secured on property along the Niagara frontier, which, with the other property acquired previously, will give the company the additional land required for its project. It is also reported that there is much activity on Grande Island, in the middle of the Niagara River, opposite to where the company's lands are, owing to reports of the actual starting of construction on the bridge. The bridge is to be erected jointly by The Toronto, Hamilton, Buffalo Ry., and the New York Central Rd. (July, pg., 253).

Dolly Varden Mines Ry.—The agreement reached with the Taylor Engineering Co., under the provisions of the act passed recently by the British Columbia Legislature, was not consummated, consequently the property passed over to the Taylor Engineering Co., subject to the conditions mentioned in the act. The Taylor Engineering Co. is the title under which the whole property will be operated. A press report of July 12, states that the officers of the company are: President, R. P. Butchart; Directors, A. J. P. Taylor, J. F. Toner, H. C. Chiene; General Manager, D. D. Young; Superintendent, A. W. Davis. The same report states that it is the company's intention to complete the railway from the mines to tidewater, immediately, in order to provide for the transportation of the ore immediately available, and that the ore will be shipped to the smelters on vessels chartered by the company. (June, pg., 313).

Edmonton, Dunvegan and British Columbia Ry.—J. D. McArthur, President, is reported to have said in Edmonton, Alta., July 4, that 100,000 ties were being put in to replace old ties on the line between Edmonton and Sawridge, 163.7 miles, that ballasting operations were going on along the Grande Prairie branch, from a gravel pit about 19 miles south of Spirit River, and that when this work is completed, the ballasting of the main line east of Spirit River will be gone on with.

The supplementary estimates voted in the House of Commons, July 5, included \$258,797.16 to the E. D. and B. C. Ry., for a subsidy on its branch line from a point on its line as located, situated near the Spirit River settlement, to and through the Grande Prairie Land District, Alta., or on to main line. This amount is to be expended on such branch line or any portion of the main line, or both, under the supervision and direction of officers of the Railways Department, and upon such terms and conditions as may be approved by the Dominion Government.

The Board of Railway Commissioners is being asked for a recommendation to the Dominion Government to sanction an agreement dated May 3, 1918, between the Edmonton, Dunvegan and British Columbia Ry., and the Alberta and Great Waterways Ry. (June, pg., 313).

Grand Trunk Pacific Ry.—We are officially advised that the company pro-

poses to build a car ferry slip at Prince Rupert, B. C., and that it is intended to go on with the work as soon as the Dominion Government has approved of the plans.

The slip will be located in Waterfront block C., and will be 450 ft. long by 75 ft. wide. The trestle will consist of 21 bags, of pile work, with a rail and plank walk at the side. At the end of the trestle there will be a 3-track 40-ft. apron to enable the barges to be removed at any stage of the tide.

The ferries that will operate in connection with the slip are remodelled G. T. P. Ry. lumber barges. They will be equipped with trackage, housing for the crew, and all facilities essential to a regular car ferry. They will operate between Prince Rupert and Swansea Bay at the present time, with a probable extension later to Ocean Falls and possibly Anyox. (June, pg., 313).

Great Northern Ry.—The President, in his report for the year ended Dec. 31, 1918, states that 203 miles of new sidings and spurs were added to the company's lines in Canada, and that there was a short change of line made at Spencer, B. C., on the Vancouver, Victoria and Eastern Ry's Grand Forks and Phoenix branch.

Hudson Bay Ry.—The House of Commons on July 5, voted in the supplementary estimates \$300,000 on capital account for construction purposes on this railway, and in the main estimates voted \$100,000 on account of terminal work at Port Nelson. The Minister of Railways said the \$300,000 is to cover the cost of ties to complete the railway to Port Nelson. The rails will be taken from the Canadian National Railways main line, where new rails are being put in. As soon as the ties and rails are obtained the work of completing the line will be gone on with. The \$100,000 for the Port Nelson terminals is to pay for items in connection with the staff, and for cleaning up work in and around Port Nelson during the year.

The Senate, during its recent session, appointed a special committee to investigate the navigability of Hudson Bay and Straits, and other matters, as the result of a discussion on the building of the Hudson Bay Ry. The committee reported that 14 sittings had been held and considerable information gathered, and asked for power to sit after the closing of the session, and to report at the next session of Parliament. (May, pg., 253).

Lacombe and Northwestern Ry.—The Premier of Alberta is reported to have said at Calgary, Alta., July 3, on his way home from Ottawa, that he had been in the east trying to secure rails for the completion of the Lacombe and Northwestern Ry., from near Bentley to Rimbey, but found it impossible to obtain relaying rails at reasonable prices. The Alberta Government was now about to call for tenders for the completion of the line. It was the Government's intention to sell the line as soon as an equitable and favorable arrangement could be made with some other railway company or experienced railway operators. (July, pg. 381).

Maritime Coal Ry. and Power Co.—A coal train running on this company's railway between Joggins Mines and Maccan, N. B., is reported to have dropped into the Maccan River, through the bridge, on July 13. The company

applied recently for approval of plans for new piers for this bidge, and had invited tenders for the work. (June, pg., 313).

Montreal Central Terminal Co.—The Minister of Public Works is reported to have formally disapproved of the company's plans for the building of a bridge over, or the construction of a tunnel under the St. Lawrence River, connecting Montreal with the South shore, under the provisions of the Navigable Water Act. This bridge or tunnel formed part of a project initiated by C. N. Armstrong for the laying out of a central station and terminals in Montreal, which has been extensively pushed during the last few years. It is reported that the plans for the development of the part of Montreal as outlined by the Harbor Commission, include a bridge, at or near the site proposed to be used by the company.

Owing to the opposition which developed in the Senate to the project, the company's application for an extension of time for construction was withdrawn. (June, pg., 313).

Naas and Skeena River Ry.—A petition was reported to be in circulation in the Prince Rupert, B.C., district recently, asking the British Columbia Government to give some encouragement to the building of a railway within the Groundling coal area, which lies about 200 miles from Prince Rupert. A company of which the late Lord Rhondda was head, had under consideration before the war, the construction of a railway from Kitimat, along the Naas River, and the Kitsumkalum River valleys to the Groundling country. The report states that a more suitable route for a railway would be from the Groundling country to Kiwanger, just below Hazelton, mileage 1576 on the Grand Trunk Pacific Ry. The estimated cost of a line is put at \$15,000,000, and it is suggested that a grant of 10,000 acres a mile, and the right to exploit 250,000 acres of coal land on royalty, be given in aid of construction. (June, 1917, pg., 225).

Pacific Great Eastern Ry.—The British Columbia Minister of Finance left Toronto for Victoria, B. C., July 2, after placing a loan of \$3,000,000 with city bondhouses. He is reported to have said that the whole of this loan will be applied to construction on the Pacific Great Eastern Ry's. line, 200 miles of the railway being operated, leaving about 180 miles to be completed in order to reach Fort George and on the completion of the line to that point arrangements will be made for pushing on into the Peace River country.

A press report of July 11 states that 18 miles of additional grading on the uncompleted section of this line towards Fort George, B. C., has been completed; that tracklaying was expected to be started on July 13, towards Williams Lake; that ballasting and surfacing operations were being carried on on the mileage completed recently westerly from Clinton, and that the foundation work for the bridge at Sheep Creek was being gone on with.

Quebec and Saguenay Ry.—In the supplementary estimates passed by the House of Commons, July 5, there is an item of \$550,000 for construction work on the Q. and S. Ry., for the year. The line has just been opened to Murray Bay, but there is considerable finishing up work to be done, buildings to be erected, etc. (May, pg., 254).

Quebec and Ungava Ry.—St. Felicien and Ungava Ry.—A press report states that N. L. F. Blake left Quebec recently with a party for Chicoutimi and Lake Chibougamou. At the latter point they expect to joint another party, reported to have already reached there. These two parties are reported to be making surveys in connection with the Quebec and Ungava Ry., and it is stated that the second line will start from St. Felicien, and will finally connect with the Q. and U. Ry. at Lake Chibougamou. (May, pg., 244).

St. John and Quebec Ry.—A press

report of July 13 states that the contractors expected to have the section of the line from Gagetown to the junction with the Canadian Pacific Ry. at Westfield, N. B., ready for operation before Aug. 1, which was the date set some time ago. The completion of this section of the line will give the Canadian National Rys. a second entrance into St. John, the intention being to operate trains over the National Transcontinental Ry., from McGivney Jct., into Fredericton, and thence over the St. John and Quebec Ry. and the C. P. R. (July, pg., 382).

Canadian Pacific Railway Construction, Betterments, Etc.

Fairville-West St. John Second Track—The Board of Railway Commissioners made an order recently authorizing the opening for traffic of the second track between Fairville and West St. John, N.B., mileage 0.07 to 1.11.

Ottawa, Northern and Western Ry.—The Dominion Parliament has authorized the building of a line from the present terminus at Waltham, Que., through Waltham, Chichester and Sheen Tps., and across the Ottawa River to a junction with the C.P.R. main transcontinental line at Chalk River, Ont.

Kingston Freight Terminals—A press report states that the Board of Railway Commissioners has issued an order directing the company to begin the construction of its new freight terminal at Kingston, Ont., not later than May 1, 1920.

Western Branch Lines Contracts—The Dominion Parliament has authorized the company to build seven branch lines and extensions of lines, full details of which were given in Canadian Railway and Marine World for June, pg. 319. As foreshadowed by the President in a statement made at Saskatoon, Sask., June 6, referred to in our last issue, construction is to be gone on with at once. We are officially advised that contracts for grading have been let as follows:

From Lanigan northerly for 50 miles, being part of a line of 150 miles from Lanigan, through Watson and Melfort, to Tp. 57, Range 17, west 2nd meridian, north of Carrot River, Sask. John Stewart, Construction Co., Vancouver.

For 25 miles on the projected branch from Rosetown, Sask., southerly for 50 miles, thence southwesterly to Wymark on the Swift Current southwesterly branch. This 25 miles will be started from the end of the section of the Milden-Empress line, put under contract and run generally southerly. Canadian Construction Co.

From near Leader, Sask., on the Swift Current northwesterly branch, generally southerly for 25 miles. John Stewart Construction Co., Vancouver.

From Wymark, Sask., on the Swift Current, southeasterly branch, easterly branch, easterly for 25 miles, being part of a line to connect with Archive, on the Moose Jaw southwesterly line. John Stewart Construction Co., Vancouver.

From Russell, northerly for 12 miles, being an extension of a Manitoba and Northwestern Ry. branch, now in operation from Hazelcliff to Russell, 11 miles. Northern Construction Co., Winnipeg.

From Milden, Sask., on the Moose Jaw northwesterly line, for 34 miles, being part of the projected extension

of the Bassano easterly branch from Empress, Alta. The total length of this line is 132 miles. John Stewart Construction Co., Vancouver.

Acme to Drumheller, Alta.—We are officially advised that it is proposed at present to build 37 miles of line, that work will be started at once, and that it is expected to have this mileage completed by Nov. 10. The location shows a maximum gradient of 0.65%, and a maximum curvature of 10 degrees. The track will be laid with 80 or 85 lb. steel rails. The contract for grading has been let to the John Stewart Construction Co., Vancouver.

A press report states that the general contractors have sublet the grading for this line to Burris, Jordon and Welsh, and that the second member of this firm is in charge of the work with headquarters at Granger, Alta. The route is reported to be through the Knee Hill River Valley, and the Red Deer Canyon, and through Carbon.

Columbia Gardens to Trail—A press report states that it is possible the company will soon begin the construction of a line from Columbia Gardens to Trail, B.C., 7 miles. This line was surveyed some years ago. Columbia Gardens is on the Great Northern Ry. line from Marcus to Nelson, at mileage 43, and Trail is on the C.P.R. Nelson-Rossland line.

Vancouver Pier Construction—Work is reported to have been started on the new pier on Burrard Inlet, the engineers being engaged in making borings for the foundations. We were officially advised at the end of February that the pier to be built is one of two which had been recommended by a committee of the company's officers which had considered the question of the facilities required for the company's ocean traffic. The dimensions of the piers had not then been settled, and the report referred to states that the details of the pier have not yet been finally settled. The work reported to be in progress probably has to do with the final settlement of the plans. (July, pg. 383).

Freight Traffic Manager for Vancouver. The Vancouver Board of Trade, and a number of other business organizations in that city, have joined together to establish a freight traffic bureau, with a view to securing alterations in existing conditions, with regard to freight rates both east and west, and also to look after the adjustment of claims, prepare cases for presentation to the Board of Railway Commissioners, etc.

Railway Rolling Stock Orders and Deliveries.

The C.P.R. between June 15 and July 15, received 3 locomotives from its Angus shops, Montreal.

The Cordoba Central Ry., (South America), a British owned railway, has ordered six 2-8-2 locomotives from the American Locomotive Co.

The G. T. R., between June 12 and July 15, received 4 switching locomotives from its Montreal shops, leaving one, of an order of 20, still under construction there.

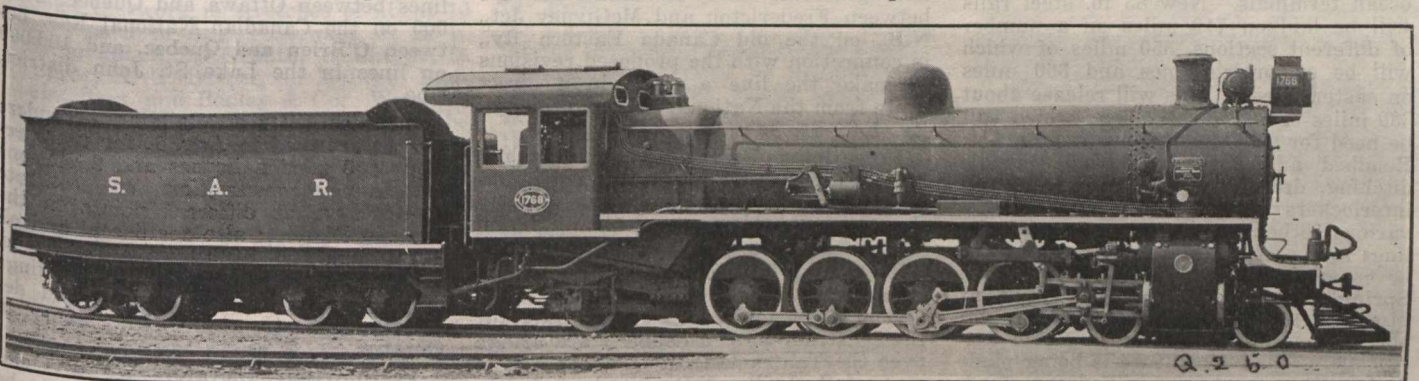
The National Steel Car Co. between June 13 and July 15, delivered 276 box cars to Canadian National Rys. and a quantity of miscellaneous railway material for the Federated Malay States Railways.

Canadian National Rys. have ordered 18 twelve section, single drawing room, standard sleeping cars, and 9 dining cars, from Canadian Car and Foundry Co., to be built at its Montreal plant.

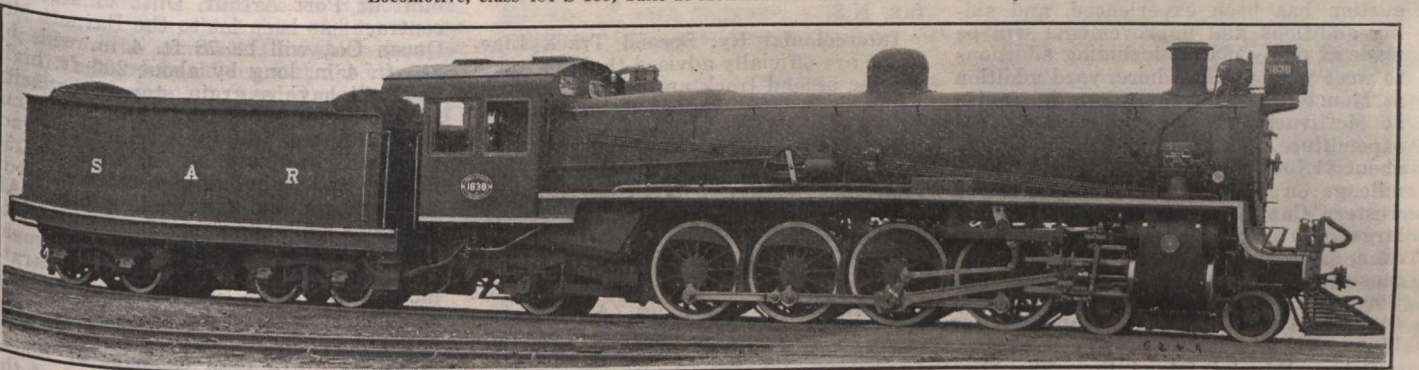
Canadian rolling stock company, or by way of equipment or materials acquired by the Minister of Railways. This vote is chargeable to capital.

Canadian National Rys. has given the Canadian Car and Foundry Co. an order to build 20 of the colonist cars it has on order as previously mentioned, as tourist cars. This work is being undertaken at the company's Montreal plant. These cars will be of the C.N.R. standard tourist car type, 81 ft. 10 in. over couplers; 73½ ft. over end sills; 68½ ft.; total wheel base; 57½ ft. truck centers; 11 ft. truck wheel base, and with 4 ft. 2 in. vestibules. They will be equipped with 6-wheel trucks, with 5 x 9 in. axles, McCord journal boxes, rolled steel wheels, with latest type of clasp air brakes, Westinghouse L. N. equipment with 18 in. brake cylinder, Safety Car Heating and Lighting Co.'s electric lighting system, 30 volts, 300 ampere

	Class 482, S. 188	Class 482, S. 194
Gauge	3 ft. 6 in.	3 ft. 6 in.
Fuel	Soft coal	Soft coal
Cylinders, diar. and stroke	22 x 26 in.	22 x 28 in.
Driving wheel, diar..	48 in.	57 in.
Boiler, inside diar....	67½ in.	64 13-16 in.
Boiler pressure	190 lb.	185 lb.
Firebox, length and width	79¾ x 65¼ in.	88¾ x 64¼ in.
Tues. no. and diar....	139-2¼ in.	113-2¼ in.
	24-5½ in.	21-5½ in.
Tubes, length	19 ft. 1½ in.	19 ft. 1½ in.
Wheel base, driving..	12 ft. 9 in.	15 ft.
Wheel base, engine...	30 ft. 8 in.	33 ft. 9 in.
Wheel base, engine and tender	59 ft. 9¼ in.	62 ft. 7¼ in.
Weight on leading truck	25,000 lb.	27,000 lb.
Weight on drivers....	143,000 lb.	144,500 lb.
Weight on trailing truck	19,500 lb.	22,000 lb.
Weight, engine	188,000 lb.	194,000 lb.
Weight, tender	177,000 lb.	177,000 lb.
Heating surface, tubes	1,555 sq. ft.	1,265 sq. ft.
Heating surface, flues	657 sq. ft.	575 sq. ft.



Locomotive, class 484 S 188, built at Montreal for South African Railways.



Locomotive, class 482 S 194, built at Montreal for South African Railways.

The Nigerian Rys. (British West Africa), have ordered 10 locomotives from the American Locomotive Co. These will be similar to those built previously for the same system by the company.

The Minister of Railway stated in the House of Commons July 5, that orders then given for rolling stock for the Canadian National Rys. were approximately as follows: Locomotives, \$2,350,000; freight equipment, \$8,650,300; passenger equipment, \$4,450,000; a total of about \$16,555,000.

The House of Commons, on July 5, voted \$35,000,000 to acquire directly or indirectly, or to assist in acquiring during that fiscal year, railway equipment and materials for the purposes, and upon the terms, save as varied by the vote, mentioned in Chap. 38 of the statutes of 1918. The assistance as provided by the vote may be by way of advances to any Canadian railway or any

hour battery and lights so arranged inside of car as to provide half light on night circuit, 4 separate circuits arranged for lighting, and no gas to be used for auxiliary purposes, Vapor Car Heating Co.'s latest vapor heating system. DuPont fabrikoid seat covering, pantaote curtains, composition flooring, wood interior finish, steel exterior finish, gravity water system supplied from overhead tanks with special filling device from side of car, 3 wash basins at men's end, and 2 at women's end.

The Montreal Locomotive Works is, as stated previously in Canadian Railway and Marine World, building 40 mountain type locomotives for the South African Railways, duplicates of those built for the same system by the American Locomotive Co. last year. These are of two classes, 20 being built to each specification, an illustration of each type being given on this page. Following are the chief details:

Heating surface, firebox	138 sq. ft.	188 sq. ft.
Heating surface, total	2,350 sq. ft.	2,028 sq. ft.
Heating surface, superheater	558 sq. ft.	484 sq. ft.
Grate area	36 sq. ft.	40.2 sq. ft.
Maximum tractive power	42,300 lb.	37,400 lb.
Factor of adhesion....	3.38	3.86
Tender, type	8 wheeled	
Capacity, water	4,250 imp. gals.	
Capacity, coal	22,400 lb.	

It is announced that 20 of these locomotives were shipped from Montreal on Elder Dempster and Co.'s s.s. Kwarra, July 18, to South Africa.

Demurrage Rates — The Board of Railway Commissioners will, on Aug. 2, at Ottawa, bring up the question of demurrage rates. In Aug., 1917, a standing scale of demurrage rates was put into effect to meet war conditions, and upon the cessation of hostilities a number of trade associations asked that the old rates be restored.

Canadian National Railways Construction, Betterments, Etc.

Appropriations—The House of Commons on July 4, passed an item in the estimates of \$11,121,681 for construction and betterments on Canadian Government Railways to this amount; \$6,004,068 is to be expended on lines east of Quebec; \$993,280 on the National Transcontinental Ry. west of Quebec; \$1,600,000 on Halifax terminals; \$524,333 on the mechanical department, and \$1,500,000 on general appropriations for construction and betterments.

Betterments Programme—We have been officially advised that the betterments on the Canadian National Railways for this year include the following: Nearly \$6,000,000 will be spent on bridge work. This will include filling and replacing timber bridges with steel and concrete to take care of heavier power. One new structure included in this amount, is the overgrade highway bridge at Halifax docks in connection with the ocean terminals. New 85 lb. steel rails will be laid on 710 miles on a number of different sections, 350 miles of which will be on prairie lines and 360 miles on eastern lines. This will release about 330 miles of 80 lb. relay steel which will be used for relaying important branches. Roadbed and track work will include ditching, draining, trimming, tie plates, interlockers and signal apparatus, and various other items. On the eastern lines four sections of second track are to be constructed from Truro to Belmont; Springhill Jct. to Maccan; a section at Moncton; and from St. Rosalie to Bagot, these items alone representing over \$1,650,000. This expenditure is being made to facilitate operations in and out of adjacent terminals, where in the past congestion has been experienced, and siding additions and improvements will be made at many places, including additions to west yard at Chaudiere, yard addition at Moncton and improvements in grades at McGivney Jct. to Fredericton. The expenditure on ballasting will amount to about \$1,700,000, which will cover a large mileage on various lines in eastern and western Canada. Buildings will form a large item of expenditure, amounting to over \$2,000,000, which will include extensions to locomotive houses, new stations and section houses, freight sheds, coaling plants, repair shops, water tanks, etc.

Prince Edward Island Ry.—The Minister of Railways stated in the House of Commons July 4 that the work to be done on the P.E.I.R. includes new 85 lb. rails, \$1,900; Wellington section of extension, \$390; North Wiltshire business siding, \$1,600; Fredericton, two sidings, \$2,700; third rail, Borden-Charlottetown-Summerside, \$200,000. It is intended to complete the laying of a third rail on the line between Charlottetown and Summerside, so that it can be operated as either gauge. It is expected to get this work completed during the summer. The steamship Scotia, which ran formerly between Mulgrave and Point Tupper, is being fitted up so that she may be used between Borden and Cape Tormentine, when the Prince Edward is off for overhaul during the summer, or as an extra to take care of certain special kinds of traffic, such as gasoline in carload, or 10 carload lots.

Sydney, N.S., Coaling Plant—We have been officially advised that a contract has been let to Williams and Wilson Ltd.,

Montreal, for the erection of a coaling plant at Sydney, N.S.

Moncton Freight Shed—Tenders were received to July 17, for the construction of a brick and steel freight shed, 450 ft. long, and a brick freight office building at Moncton, N.B.

St. John, N.B., Station—A press report states that announcement of the decision to build a new station and to extend the yards at St. John, is expected to be made shortly. The report states that engineers, in addition to carrying out a survey in connection with the proposed new station and yard extension have made enquiries about property which will be required to provide additional space at the terminal. The plans for the new station are said to provide an elevated entrance.

Fredericton-McGivney Jct. Improvements—We are officially advised that an engineering party is making surveys between Fredericton and McGivney Jct., N.B., on the old Canada Eastern Ry., in connection with the proposed revisions to make the line a circle in a direct route from the National Transcontinental Ry. into St. John.

Fredericton Bridge—A. P. Barnhill, K.C., a director of the Canadian National Rys. is reported to have said recently that a new bridge across the St. John river at Fredericton, N.B., will be built as soon as possible.

Sackville Double Track Bridge—We are officially advised that a contract for the construction of a double track bridge over the Tantraman River, about a mile east of Sackville, N.B., has been let to the Nova Scotia Construction Co., Halifax, N.S.

Intercolonial Ry. Second Track Line—We are officially advised that contracts for the second track and diversion work, which was fully described in Canadian Railway and Marine World for July, pg. 379 have been let as follows:—

Truro to Belmont—Grading for one additional main line track, for approximately 7.57 miles, Bate, McMahon Co., Ltd., Ottawa.

Springhill Jct. to Maccan—Grading for one additional main line track for approximately 9.13 miles, A. Wheaton, and Dominion Construction Co., Ltd., Halifax, N.S.

Moncton—Grading for double track railway, approximately 3.35 miles, consisting of grading on the north siding and parallel to the present track on the St. John subdivision from mileage 1.44 (approximately), and grading for double track from mileage 2.53, St. John subdivision to mileage 3.50 Newcastle subdivision, A. Wheaton and Dominion Construction Co. Ltd., Halifax.

St. Rosalie and Charlotte—Grading for double track diversion from mileage 108.21 to 112.91, approximately 4.7 miles, Walters, Dobenny & Co., Montreal.

Section House Contracts—We are officially advised that contracts have been let for the erection of standard section houses as follows:—To Hamilton and Collier, Campbellton, N.B., section houses at Sirois and near Grog Brook, N.B. To T. Roy, Green Point, N.B., section house at Grog Brook, N.B. To A. J. Morin, Garthby, Que., section houses at Lapoint, Picard, Bretagne, Lefebvre, Que.

Chicoutimi Station—Tenders will be

received to Aug. 9 for the erection of a station at Chicoutimi, Que., at the Quebec and Lake St. John Ry. terminus.

Cap Rouge to Portneuf, Que.—We are officially advised that the rebuilding of some 20 miles of the Canadian Northern Ry. between Cap Rouge and Portneuf, Que., which was washed out last year, has been let to Vivian T. Bartram, of Toronto. The work will consist of heavy rock filling rip-rapping, broken stone ballasting and shore protection work along the St. Lawrence River. K. A. Morrison, railway sub-contractor, is General Manager of the work, and J. E. McDonald, of Whitley, Ont., is Superintendent.

Tenders for Ties—Tenders will be received to Aug. 28 for 1,375,000 railway ties, to be made and delivered between Oct. 1, 1919 and Oct. 1, 1920, to be delivered as follows: 1,000,000 between Port Arthur and Pembroke, Ont.; 50,000 on lines in Central Ontario; 25,000 on lines between Ottawa and Quebec; 200,000 on the Canadian National Rys. between O'Brien and Quebec, and 100,000 on lines in the Lake St. John district, Que.

Ontario District Buildings—Tenders will be received to Aug. 1, for the erection of 3 section houses and 2 stations of frame construction on concrete foundations, at different points in the Ontario District; also for 5 coal and oil houses and 21 bunk houses, all of frame. These two latter classes of buildings are to be loaded on flat cars and delivered f.o.b. to any C.N.R. siding in Ontario.

Port Arthur Elevator—We are officially advised that the workhouse to be built at Port Arthur, Ont., of which a contract has been let to the Barnett McQueen Co., will be 78 ft. 4 in. wide by 210 ft. 4 in. long by about 200 ft. high, and will have a grain storage capacity of about 700,000 bush. The unloading shed, at the end of the workhouse structure, will be 110 ft. 2 in. wide by 150 ft. long and will contain 4 automatic box car dumpers and 4 unloading pits. All buildings will be of reinforced concrete construction throughout. The equipment will be electrically driven with separate motors for each machine. The new workhouse will be built to handle the three present tile and concrete storage units, having a total capacity of 7,000,000 bush., and will take the place of the two timber workhouses, used formerly for that purpose. The elevator will have an unloading capacity of 300 cars a day, and a shipping capacity to steamships of 75,000 bush. of grain an hour. The cleaning equipment will consist of 15 no. 11 monitor receiving separators, 3 monitor northwestern separators, 2 no. 9A screening separators, 3 no. 8A flax separators, and 3 Richardson wheat and oat separators. The installation will include a complete dust collector system. A novel feature of this elevator will be the installation of 4 automatic box car dumpers, to take the place of the old system of hand shovelling. It is anticipated that the unloaders will greatly increase the speed of unloading cars, and, at the same time, will considerably reduce the number of men usually employed in this operation. The elevator equipment will be modern in every respect and the workhouse, when completed, will be the handling house for the largest grain elevator in the world.

Western Lines Contracts—The Canadian Construction Co., which has the contract for grading on the Hanna-Medicine Hat line, in Alberta, and the Lampman-Peebles line in Saskatchewan, is a recently organized company, with authorized capital of \$200,000, office at Winnipeg, and the following officers: President, J. D. McArthur; Vice President, W. A. Dutton; Secretary, D. N. McLeod; Treasurer, E. J. Rankin. The company is reported to have sublet its contracts.

We are officially advised that J. W. Stewart is personally in charge of the various contracts in the prairie provinces and in British Columbia, let to John W. Stewart & Co., Vancouver, B.C.

Warman-Prince Albert Track Relaying—A press report of July 15 stated that the relaying of track from Warman, to Prince Albert, Sask., 75 miles, had been completed.

Kamloops - Vernon - Lumby Line.—A press report states that J. W. Stewart & Co., who have the general contract for grading, etc., on this line, have had to sublet the work in stretches of about 10 miles each to Angus Stewart, J. B. L. Macdonald, A. E. Griffith, ... Sharpe, C. Tupper, H. G. Barber, ... McLeod, Raubeim Bros. and Bouley & Co. With the exception of the latter two firms all the holders of sub-contracts are said to be returned officers, and it is reported that they are employing returned soldiers as far as available. Work is reported to be in progress at Kamloops, Armstrong, Monte Creek, and Long Lake.

New Westminster - South Vancouver Line—We are officially advised in connection with the projected line from New Westminster to South Vancouver, that it is proposed to build it from the end of the Fraser River bridge into New Westminster, a distance of 2,000 ft. at present. This short bit of line is one cutting, the contract for which was let to 15 returned soldiers with the city's approval to furnish needed work to the men, and to get a cutting which would take much line out of the way. For the remainder of the line, a trial survey has been run down the north arm of the Fraser River and around Point Grey to Kitsilano Reserve in order to get general information. No further construction is contemplated at present. (July, pg. 379).

A Reinforced Concrete Gondola Car has been built in the U.S. It has a steel skeleton body mounted on the standard center sills and bolsters of the U.S.R.A., 40 ft. 50 ton gondola car, and is designed for a capacity of 100,000 lb., plus the usual 10% overload. The end load was assumed at 200,000 lb., with an allowance of 25% for impact, equivalent to an end load of 250,000 lb. The floor is 2½ in. thick, and the sides, 1½ in. thick, of reinforced concrete, ribbed at critical points. The total weight is 53,600 lb., but it is estimated that with proper facilities for construction, a similar car could be built weighing between 46,000 and 48,000 lb. It was in service recently on the Illinois Central Rd. for a 30 day test.

Mechanical Stokers—It is contended that all locomotives which weigh 200,000 lb. or more on the drivers, have a tractive effort of 50,000 lb., a grate area of 60 sq. ft., and which require more than 4,000 lb. of coal an hour for long periods, should be equipped with mechanical stokers.

Traffic Orders by Board of Railway Commissioners.

Regulations Governing Baggage Car Traffic.

28,477. June 19.—The application of Eastern Canadian Passenger Association under Sec. 31 of the Railway Act, for leave to publish for three weeks in the Canada Gazette, rule 23 of the regulations governing baggage car traffic in Canada, as amended by general order 191, May 26, 1917: It is ordered that leave be granted the applicants to publish for three weeks in the Canada Gazette said rule, which reads as follows: "Storage—Rule 23. Exception (4)—Immigrant baggage will be stored free of charge for any portion of a period of, but not exceeding, five days after arrival at the ports of Montreal, Toronto and Winnipeg."

28,478. June 19.—Re application of Eastern Canadian Passenger Association, under sec. 31 of the Railway Act, for leave to publish for three weeks in the Canada Gazette, rule 26(d) of regulations governing baggage car traffic in Canada, as amended by general orders 179, 181 and 262, dated, respectively, Jan. 29 and Feb. 3, 1917, and May 8, 1919: It is ordered that leave be granted the applicants to publish for three weeks in the Canada Gazette said rule 26(d), which reads as follows: "26(d)—In case of non-delivery of baggage or other articles checked, notice must be given in writing to the originating or terminating carrier within 20 days after arrival of passenger at destination. In case of damage or delay to baggage or other articles checked, or loss of any of the contents from a receptacle, such notice must be given within 20 days after delivery of such baggage, article or receptacle. Otherwise the carrier shall not be liable."

28,480. June 17.—Granting application of Eastern Canadian Passenger Association, under sec. 31 of the Railway Act, for permission to publish general orders 191 and 262, dated, respectively, May 26, 1917, and May 8, 1919, in two consecutive issues of the Canada Gazette.

Newsprint Paper Dates From Thorold.

28,518. July 11.—Re complaint of Ontario Paper Company, Thorold, Ont., against rate of 22c per 100 lb. charged by G.T.R. on newsprint paper, in carloads, from Thorold to Chicago, Ill. Upon hearing the complaint at Ottawa, June 10, 1919, in the presence of counsel of the complainant and counsel and a representative for the G.T.R., the evidence offered and what was alleged, and upon reading the exhibits filed, and the report of the board's Chief Traffic Officer, it is ordered that the complaint be dismissed.

Wood Pulp Rates From Quebec Points.

28,537. July 12.—Re complaint of Chicoutimi Pulp Co, that the Canadian Northern Ry. tariffs on wood pulp from Chicoutimi and Val Jalbert, Que., to points in the United States, known as Central Freight Association territory, are 6c per 100 lb. higher than those from Hawkesbury, Ont., instead of 5c as formerly, and that the rates on wood pulp from Hawkesbury to points in Central Freight Association territory are ½ per 100 lb. higher than the rates prescribed by order 26,547, Sept. 20, 1917. Upon hearing the matter at Ottawa, July 5,

1919, in the presence of counsel for the Canadian National Rys., and counsel and representatives for the G.T.R. and C.P.R., the complainant, the Montreal Board of Trade, the New York Central Rd. and the Riordan Pulp and Paper Co. being represented, it is ordered that the complaint be dismissed.

Freight and Passenger Traffic Notes.

A petition of the Acadia Sugar Refinery, against railway freight rates on sugar, was heard by the Privy Council at Ottawa, July 9.

The Canadian Pacific Ocean Services Ltd., general passenger department has been removed from 2 St. Peter St., Montreal, to the ground floor of the Dominion Express Building, 141 St. James St.

It was reported in Winnipeg, July 14, that the accumulation of freight and express matter gathered at various points in the west, consequent on the recent strike in Winnipeg, had been cleared away, and that traffic was again practically normal.

The Alberta and Great Waterways Ry. put in effect July 24, a change of train service between Edmonton, and Lac la Biche, Alta. The train leaves Edmonton, as formerly, at 7.20 a.m., but on Thursdays instead of Fridays, and returns from Lac la Biche at 5.30 a.m. on Fridays instead of Saturdays.

The Board of Railway Commissioners made an order June 3 authorizing the Canadian National Rys. to operate trains and establish a service over the portion of the Victoria and Sidney Ry. from Sidney to the point when it crosses the Canadian Northern Pacific Ry., for three months pending the making of a traffic agreement between the railways.

J. D. McArthur, President, Edmonton, Dunvegan and British Columbia Ry., Alberta and Great Waterways Ry. and Central Canada Ry., is reported to have said in Edmonton, Alta., July 4, that since Sept., 1918, the railways had carried 25,000 cattle into the Peace River Country, of which only one carload had been returned, and that over 100,000 tons of hay had been taken out during 1918.

The Canadian National Rys. is operating a train daily except Sundays on the Halifax and South Western Ry., leaving Halifax at 7.05 a.m., and arriving at Yarmouth at 6.30 p.m., in connection with which steamships leave Yarmouth for Boston, Mass., Tuesdays, Wednesdays, Fridays and Saturdays. Steamships arrive in Yarmouth from Boston the same mornings connecting with the train which leaves Yarmouth, daily except Sundays, at 8.45 a.m., reaching Halifax at 7.05 p.m. A parlor buffet car is attached to these trains.

The Quebec and Saguenay Ry. began on July 1, operating daily, except Sundays, a train leaving the Quebec Ry., Light and Power Co.'s station at St. Paul St., Quebec, for Baie St. Paul, Les Eboulements, St. Irene, Pointe a Pic, Murray Bay, and all intermediate stations. The train leaves Quebec at 8 a.m., reaches Murray Bay at 1 p.m., leaves there on the return trip at 3 p.m., and arrives at Quebec at 8 p.m. It carries passengers and express matter. Freight is carried by a train for all stations to Murray Bay on Wednesdays and Saturdays, and from Murray Bay to Quebec, Tuesdays and Fridays.

Mainly About Railway People Throughout Canada.

E. W. Beatty, K.C., President, C.P.R., is announced as one of the speakers at the industrial congress to be held at Calgary, Alta., Aug. 13 and 14.

Senator F. L. Beique, one of the C.P.R. directors, has been elected President Saguenay Pulp and Power Co., which owns the Roberval-Saguenay Ry.

Major Graham A. Bell, C.M.G., who was appointed acting Deputy Minister of Railways and Canals in June 1918, has been appointed Deputy Minister.

Sir George McLaren Brown, European General Manager, C.P.R., and Lady Brown, were entertained to dinner at London, Eng., July 5, by the local staff, in honor of Sir George's recent knighthood. Among the several congratulations received, was a letter from E. W. Beatty, K.C., President, C.P.R., which was sent overseas by the Vickers-Vimy aeroplane which made the first non-stop trans-Atlantic flight recently.

Sir Geo. Bury, who has removed from Montreal to Vancouver, on his election as President, Whalen Pulp & Paper Mills Ltd., has taken a house on Shaughnessy Heights, Vancouver.

Mrs. H. R. Charlton, wife of the General Advertising Agent, G.T.R. and G.T.P.R., is spending the summer at Old Orchard, Me.

Jas. D. Coleman, who died at Winnipeg, July 1, aged 75, was, for some time in C.P.R. service at Winnipeg, as Inspector of Ties for Manitoba. D. C. Coleman, Vice President, Western Lines, C.P.R., Winnipeg, and G. T. Coleman, Inspector of Transportation, C.P.R., Montreal, are sons.

Sir Henry Drayton, Chief Railway Commissioner, Ottawa, accompanied Sir Robert Borden on the latter's cruise down the St. Lawrence River in July. He is mentioned as being about to resign his position, and to enter the Dominion Government, probably as Finance Minister.

J. L. Englehart, Chairman, Timiskaming & Northern Ontario Ry. Commission, Toronto, has been staying at the Algonquin Hotel, St. Andrews, N.B., since early in July and will probably remain there until towards the end of August.

N. J. Fraser, who died at Peers, Alta., July 5, aged 57, was in G.T.R. service for some time as Foreign Freight Agent, after which he managed the Johnston Steamship Line at Montreal, resigning in 1904.

J. P. Gordon, of Pas., Man., ex-Assistant Chief Engineer, Hudson Bay Ry., is reported to have discovered a solid dyke of quartz, containing gold at Copper Lake, north of Pas, and east of Flin Flon copper mines.

Henry E. Graves, who was for 26 years in G.T.R. service, as Commercial Agent in the U.S., and who retired from active service several years ago, died at his home at River Forest, Ill., June 25.

Grant Hall, Vice President, C.P.R., left Montreal, July 7, on an inspection trip of the company's lines to the Pacific Coast, and was accompanied over the Western Lines by D. C. Coleman, Vice President, Western Lines. Mr. Hall was expected to return to Montreal about Aug. 1.

C. M. Hamilton, of McTaggart, Sask., who is one of the Canadian National Rys. directors, has been elected, by ac-

clamation, as member for Weyburn, in the Saskatchewan Legislature. He was the Liberal nominee.

John Harrower, who has been appointed acting Chief Draftsman, car department, G.T.R., Montreal, was born at Glasgow, Scotland, Dec. 23, 1883, and from June, 1897, to Sept., 1902, junior draftsman, Glasgow Locomotive Works, Glasgow, Scotland; Sept., 1902 to Apr., 1904, draftsman, Babcock and Wilcox Ltd., Renfrew, Scotland; May to Sept., 1904, draftsman, Hamilton Patent Office, Hamilton, Ont.; Sept., 1904 to Nov., 1911, draftsman, G.T.R., Montreal; Nov., 1911 to Nov., 1912, chief draftsman, Motive Power & Car Department, Grand Trunk Pacific Ry., Rivers, Man.; May, 1912 to May, 1919, draftsman and supervisor of apprentices, G.T.R., Montreal.

Mrs. W. P. Hinton, wife of the Vice President and General Manager, Grand Trunk Pacific Ry. Co. and Miss Hinton, are spending the summer at their cottage at Minaki on the National Transcontinental Ry.

Robert Bernard Jennings, who has been appointed Division Engineer, Canadian National Rys., Toronto, was born at Paris, Ont., June 29, 1888, and entered transportation service in Apr., 1906, since when he has been, to Oct., 1906, chairman, Toronto-Sudbury Line, C.P.R.; Oct., 1906 to Oct., 1907, rodman, Saskatoon-Edmonton Line, Grand Trunk Pacific Ry.; Oct., 1907 to Dec., 1908, instrument man and Resident Engineer, Saskatoon-Edmonton Line, same road; Dec., 1908 to Oct., 1909, leveller, Toronto-Ottawa Line, Canadian Northern Ontario Ry.; Oct., 1909 to Jan., 1916, Resident Engineer, Toronto-Ottawa, Sudbury-Port Arthur and Hawkesbury-Montreal Lines, Canadian Northern Ry.; Apr., 1916 to Jan., 1917, Manager, Jennings and Ross Co., Milwaukee, Wis.; Jan., 1917 to May, 1919, Major, 10th Battalion, Canadian Railway Troops, C.E.F., in service in France.

Mrs. Johnson, of Montreal, widow of Lacey R. Johnson, formerly of the C.P.R. Mechanical Department, and who, when he died, was that company's General Welfare Agent, is visiting her daughter, Mrs. W. F. Evans, in Vancouver.

Sir Hormisdas Laporte, one of the Canadian National Rys. directors, is spending the summer at his house, at Coteau du Lac, Que.

R. S. Logan, Vice President, Land, Tax and Claims, G. T. R., Montreal, and his family, visited the Saguenay district recently.

George Peter MacLaren, who has been appointed Engineer, Ontario District, Canadian National Rys., Toronto, was born at London, Ont., Apr. 4, 1878, and was, from Jan. to Dec., 1897, rodman, draftsman and instrument man on sewage disposal work, under the City Engineer, London, Ont.; Jan. to Nov., 1898, Resident Engineer between St. Thomas and Walkerville, Ont., Lake Erie and Detroit River Ry.; Jan. to Dec., 1899, draftsman, Algoma Central and Hudson Bay Ry.; 1900 to 1910, transit man on location, Canadian Northern Ry.; 1902 to 1904, Resident Engineer on construction, same road; 1904 to 1911, Division Engineer on construction, in Nova Scotia, Quebec and Ontario, same road; 1911 to 1915, District Engineer, North Bay District, same road; 1915 to 1916, Division Engineer, Toronto Division, same road.

In 1916 he enlisted and went overseas as Chief Engineer, of the 10th Battalion, Canadian Railway Troops, and was appointed to his present position on his return to civil life recently.

A. C. Mackenzie, formerly of Mann & Mackenzie, railway contractors, and for some years President of the Northern Construction Co., who had been a prominent railway contractor for many years, died suddenly, July 25, at the Winnipeg Electric Ry.'s new power plant on the Winnipeg River, where his company had a contract. "Big Archie," as he was familiarly known, was about 56 years of age, and had his home at Beaverton, Ont., where he is survived by a son and three daughters, and where he was buried.

Sir Donald Mann, who visited British Columbia recently, going to Prince Rupert by the G.T.P.R., does not intend to leave Toronto, to reside in the Pacific province, as stated in a Vancouver press dispatch. He will, however, probably spend considerable time there in the future, in connection with extensive mining interests which he has acquired in the Cassiar district, in northern British Columbia, in the vicinity of the Portland Canal, where he built the Canadian Northeastern Ry. a few years ago.

F. H. McGuigan, at one time Fourth Vice President, G.T.R., is representing the Toronto master bakers on a board of conciliation as to journeymen bakers' wages.

W. H. Moore, ex-Secretary, Canadian Northern Ry., and General Manager, Toronto & York Radial Ry., who wrote "The Clash," a book dealing with racial strife in Canada, has been given the degree of doctor in letters, by Laval University, Quebec.

A. Z. Mullins, who was appointed Division Freight Agent, G.T.R., Grand Rapids, Mich., recently, was born at Appin, Ont., Feb. 14, 1862, and entered G.T.R. service Feb. 10, 1884, since when he has been, to May, 1887, telegraph operator, Komoka, Ont.; May, 1887 to Oct., 1896, rate clerk, chief clerk and Travelling Freight Agent, Buffalo, N.Y.; Oct., 1896 to Apr., 1900, Agent, National Despatch—Great Eastern Line, Grand Rapids, Mich.; Apr., 1900 to June, 1907, Agent, Lackawanna—Grand Trunk Line, Detroit, Mich.; July, 1907 to Apr. 30, 1919, Commercial Agent, Grand Rapids, Mich.

Arthur Osmore Norton, President of A. O. Norton, Ltd., Coaticook, Que., and of A. O. Norton, Inc., Boston, Mass., died suddenly at his house at Coaticook, June 8, while writing a letter to his wife. He was born on a farm in Barnston Tp., near Coaticook, Feb. 17, 1845, and began his business career as a clerk in a country store. When about 30 years old, he started a jewelry business in Coaticook, and subsequently established a wholesale jewelry business there; then he started a wholesale jewelry business in Boston, Mass., under the firm name of Norton Bros. & Butters. In 1888 he started manufacturing the Norton ball-bearing lifting jacks, having factories at Coaticook and Boston, and is said to have been the first manufacturer of non-fluid, self lowering jacks, and he was also a pioneer in making ball-bearing screw jacks. He has been succeeded as President by his son, Harry A. Norton, heretofore, Vice President, Treasurer and

General Manager, and F. L. Gormley, heretofore Mechanical Superintendent, has been elected Vice President.

Senator M. J. O'Brien, President, Canada & Gulf Terminal Ry. and railway contractor, Renfrew, Ont., has been elected a director of the Bank of Nova Scotia.

Hiram L. Piper, of the Hiram L. Piper Co., railway and steamship supplies, etc., Montreal, left Montreal, July 12, for an extended motor trip in the United States.

C. W. Rennells, passenger agent, North Street station, Canadian National Rys., Halifax, N.S., has been superannuated after 47 years service. The station staff presented him with a club bag.

Col. G. S. Rennie, Chief Medical Officer, Toronto, Hamilton & Buffalo Ry. and Dominion Power & Transmission Co., Hamilton, Ont., has been appointed chief coroner for Hamilton.

Reuben S. Richardson, who has been appointed Superintendent, Canadian National Rys., Fort William, Ont., was born at Napanee, Ont., Apr. 9, 1865 and entered transportation service in 1878, since when, in 1884, he filled various positions from messenger to freight clerk, operator, ticket clerk, switchman and baggage master, Canadian Express Co. and G. T. R., at various points; 1884 to 1887, brakeman, conductor, station agent and Soliciting Freight and Passenger Agent, Bay of Quinte Ry., at various points; 1897 to 1901, brakeman, conductor and Terminal Yardmaster, Canada Atlantic Ry., Ottawa; 1901 to 1907, General Yardmaster and acting Trainmaster, C.P.R., Smiths Falls and North Bay, Ont.; 1907 to 1911, Assistant Superintendent, Canadian Northern Ry., Montreal, Quebec and Ottawa; 1911 to 1913, Superintendent of Operating and Construction, MacDonnell and O'Brien, contractors on the National Transcontinental Ry., La Tuque, Que., 1913 to May, 1915, General Yardmaster of Terminals and Assistant Superintendent, Intercolonial Ry., Halifax, N.S., Moncton and St. John, N.B., and from May, 1915 to Mar. 27, 1917, Superintendent, District 3, Transcontinental Division, Canadian Government Railways, Fort William, Ont. In Mar., 1917, he was given leave of absence for military duty, went overseas as Lieutenant, no. 2 Section, Skilled Railway Employes, and was later transferred to No. 13 Light Railway Company R.E., British Expeditionary Force.

Lord Shaughnessy, Chairman of the C. P. R. Co., arrived at St. Andrews, N. B., early in July, to spend some time at his summer house, Fort Tipperary.

A. W. Smithers, Chairman G.T.R., sailed from England, for Canada, July 25. It is said to be his intention to endeavor to complete the negotiations between the Dominion Government and the company regarding the G.T.R.'s future.

Lord Mount Stephen, first President, C.P.R. Co., who was 90 years of age on June 5, and Lady Mount Stephen, were paid a visit at Bocket Hall, near Hatfield, Eng., recently, by the Queen and Princess Mary.

Percy R. Todd, formerly President, Bangor and Aroostook Rd., Bangor, Me., and latterly Assistant to District Director, U. S. Railroad Administration, and General Manager, Bangor and Aroostook Rd., Bangor, Me., has been appointed District Director, New England District, U. S. R. A., vice, J. H. Hustis resigned. He was born at Toronto, Dec. 4, 1859, educated at Ottawa, Ont., and

commenced railway work as clerk and telegraph operator, St. Lawrence & Ottawa Ry., now part of the C. P. R., and from 1875 to 1882 was Canadian Agent, Ogdensburg & Champlain Ry.; to 1885, General Travelling Agent, National Despatch Line, Chicago, Ill.; July to Dec., 1885, Commercial Agent, New York, West Shore & Buffalo Ry., Albany, N. Y.; to Oct., 1886, chief clerk, General Freight Department, same road, New York; Oct., 1886, to Dec., 1889, General Freight and Passenger Agent, Canada Atlantic Ry., now part of the G. T. R., Ottawa; Dec., 1889, to Feb., 1901, General Freight Agent, West Shore Rd.; Feb. 1901, to Nov., 1903, Second Vice-President, New York, New Haven & Hartford Rd.; Nov., 1903, to 1905, First Vice-President, same road; Jan., 1907, to Jan., 1913, Vice-President, Bangor, Aroostook Rd., and subsequent President same road, Bangor, Me.

Guy Tombs, Assistant Freight Traffic Manager, Canadian National Rys., Montreal, has resigned on his appointment as Traffic Manager for the Canadian Export Paper Co., representing eight of the chief pulp and paper companies of the Dominion and several in the U.S. He is in direct charge of the transportation by land and sea, and will also act as Traffic Manager for the Laurentide Co., Price Bros., Brampton St.; Maurice and Belgo-Canadian companies, and J. H. A. Acer Co., export agents, handling 1,000,000 tons a year. He was born near Lachute, Que., Nov. 22, 1877, and entered railway service in Sept., 1892, since when he has been, to Apr., 1895, junior import clerk, C.P.R., Montreal; Apr., 1895, to Aug., 1897, secretary to General Manager and Secretary, United Counties Ry., St. Hyacinthe, Que.; Sept., 1897, to May, 1899, chief clerk to Canadian Agent, Central Vermont Ry., Montreal; June, 1899, to June, 1900, rate clerk, Division Freight Office, G.T.R., Montreal; June, 1900, to Apr., 1901, Travelling Freight Agent, Central Vermont Ry., St. Johns, Que., and St. Albans, Vt.; May, 1901, to May, 1903, General Northern Ry. of Canada, Quebec, Que.; May, 1903, to June, 1912, General Freight and Passenger Agent, Canadian Northern Quebec Ry., also from Apr. 1, 1908, same position, Quebec & Lake St. John Ry., and also from Apr., 1910, Montreal Representative, Canadian Northern Steamships, Ltd.; June, 1912, to Nov., 1916, General Freight Agent, Quebec Division, Canadian Northern Ry., Montreal; Nov., 1916, to Feb., 1917, General Freight Agent, Eastern Lines, Canadian Northern Ry., Montreal; Mar. 1, 1917, to Dec., 1918, Assistant Freight Traffic Manager, Canadian Northern Ry., Montreal, and from Dec., 1918 to July, 1919, Assistant Freight Traffic Manager, Canadian National Rys., Montreal.

William Walkden, who has been appointed Bridge Engineer, Western Lines, Canadian National Rys., Winnipeg, was born at Alderley Edge, Cheshire, Eng., June 1, 1885, and served as an indentured pupil and assistant with P. Pierce and Son, Architects and Engineers, Stockport, Eng., from Oct., 1902 to July, 1907. He entered transportation service in Nov., 1907, since when he has been, to July, 1909, draftsman, Engineering Department, Canadian Northern Ry.; July, 1909 to May, 1912, draftsman and Assistant Engineer, Bridge Engineer's Department, same road; May to Nov., 1912, chief draftsman, same road; Nov., 1912 to Feb., 1917, Assistant to Bridge Engineer, same road; Feb., 1917 to Apr.,

1919, acting Bridge Engineer, same road, all at Winnipeg.

Mrs. T. Walklate, wife of the General Tie & Lumber Agent, C.P.R., Montreal, and Miss Walklate, are spending the summer on the Maine coast.

J. J. Warren, President, Kettle Valley Ry., and Managing Director, Consolidated Mining and Smelting Co., has also been elected President of the latter company, and will combine that position with that of Managing Director. Both companies are closely associated with the C. P. R.

The Inverness Railway & Coal Co.'s Financial Difficulties.

Towards the end of June application was made to the Nova Scotia Supreme Court, at Halifax, by the National Trust Co., of Toronto, for foreclosure of its mortgage on the Inverness Ry. & Coal Co.'s property. It was stated that Jno. MacGillivray, formerly General Manager of the company, who had been receiver and manager since July, 1915, had resigned, and that the Eastern Trust Co. had been appointed as his successor. The hearing of the application was adjourned to July 29. We have since been advised that R. E. McLeod, heretofore Chief Accountant and assistant to the Manager, is in charge of the mines and railways for the receiver. While the appropriation of \$11,121,681 for construction and betterments on the Canadian National Rys., was under discussion in the House of Commons, July 4, attention of the Minister of Railways was called to the fact that the Inverness and Richmond Ry. and Coal Co.'s railway was to be closed at an early date, and that it was reported that the Inverness coal mine was to be closed July 10, and he was asked as to the probability of the government taking the property over. The Minister of Railways said he made up his mind a year or two ago that the government should take over the branch lines in Nova Scotia and New Brunswick and so do away with all the troubles the people were having because of those lines not being operated properly. Last year the government made arrangements for taking over several of the branch lines in New Brunswick, but the owners of two of these lines had not accepted the offers made. The government had been urged to take over the Inverness Ry. and Coal Co.'s line and another line on Cape Breton Island. The owners valued the Inverness and Richmond Coal Co.'s line at \$150,000; the rolling stock and equipment, including 7 locomotives and 131 coal cars at \$175,000, and supplies on hand at \$25,000, and offered to accept those prices. He replied that the offer to sell the line at \$150,000 would be submitted to the government, with a proposition to take the equipment and supplies on the basis of a valuation to be made by D. B. Hanna, President Canadian National Rys. The government could act under the Branch Lines Act, and the agreement could be submitted for ratification next session. In the meantime, in order that operations might not cease, orders had been given for 1,800 tons of coal a week.

An Inverness correspondent writes us that the Canadian National Rys. will take all the Inverness Coal & Ry. Co.'s railway in the near future and that the company's colliery property will, in all probability, be leased to some one who will operate it for a fixed period.

Acquisition of Maritime Province Railways by Dominion Government.

The House of Commons on July 5, voted in the supplementary estimates by way of revote the following amounts for the purchase of branch lines in Nova Scotia and New Brunswick: York and Carleton Ry., \$18,000; St. Martins Ry., \$65,000; Moncton and Buctouche Ry., \$70,000; Elgin and Havelock Ry., \$30,000; Salisbury and Albert Ry., \$75,000, interest on these amounts estimated from the date of taking possession to Mar. 31, 1920, not exceeding \$34,000. The details of the vote set out that the purchase price is not to exceed the amount stated above for each railway (the debts of each railway to the Canadian Government Railways to be cancelled); interest on the purchase price at 5% to be paid from the time of taking possession to the date of the transfer of title, and authorization is given to such of the railways as were under the Dominion Parliament's jurisdiction to sell their lines.

The supplementary estimates passed by the House of Commons, May 20, 1918, contained similar amounts to those mentioned above for the purchase of the railways named, together with \$200,000 for the purchase of the Caraquet and Gulf Shore Ry., and \$60,000 for the Kent Northern Ry. The owners of these two companies declined to accept the prices offered, but the other five did, viz: the Elgin and Havelock Ry., the Moncton and Buctouche Ry., the St. Martins Ry., and the York and Carleton Ry., being taken over as from June 1, 1918, and the Salisbury and Albert Ry., as from July 1, both 1918, since which dates they have been operated as Canadian Government Railways branches.

We were officially advised July 15, that the details of taking over these five railways had not been completed, and that it was not expected that all the papers in connection with the transfer of title would be in shape before the end of September. The New Brunswick Legislature passed an act last session giving or confirming titles to right of way to small lines, and giving permission to sell their undertakings.

Ontario Workmen's Compensation Board Report for 1918.

The total number of accidents reported to the Board during the year was 47,848, and the amount of compensation awarded was \$3,514,648.57, including claims in respect of a number of 1917 accidents which had not been adjusted at the close of that year, and not including the amount required to merit unadjusted claims of 1918, which it is estimated will amount to \$157,852.18.

Accidents in connection with railway and canal construction, dredging, fishing, etc., are classified under Schedule 1, which come under the assessment or collective liability system. The total amount collected on estimated pay rolls from the employers of the above mentioned classes of labor was \$33,675.78, and the total amount available to meet claims for the year was \$83,318.13. The total expended for medical aid, compensation, pensions, etc., was \$40,313.64, leaving a balance of \$42,986.49.

Accidents to workmen occurring in connection with steam railways, electric

railways, navigation companies, express and sleeping car companies, telephone and telegraph companies, are dealt with under Schedule 2, in which the employer is individually liable for payment of compensation for accidents as they occur. The amounts paid during 1918 as compared with 1917, were as follows:—

	1918	1917
Pensions	\$511,964.32	\$392,404.71
Other awards	251,546.70	231,151.66
Total	\$763,511.02	\$623,556.37

The increase was due in the main to the increased pension cost in the fatalities to railway employes during the severe weather of early 1918. During 1917 the pension awards in the steam railway industry group were \$290,245.21, and in 1918, \$379,263.66.

The cash in bank and invested in connection with schedule 2 industries at Dec. 31, 1918, was \$1,036,251.99 against \$589,608.45 at Dec. 31, 1917. The amount of the awards in connection with transportation companies was as follows:—

	Awards, not pensions.		Total
	1918	1917	
Steam railways	\$153,183.06	\$379,263.66	\$532,446.72
Electric railways	9,421.20	21,278.23	30,600.43
Navigation companies	6,526.12	14,429.05	20,955.17
Ex. and sleeping car companies	1,699.13	723.06	2,422.19
Telephone and telegraph companies	596.25	7,725.47	8,321.72
Total	\$171,425.76	\$423,419.47	\$594,845.23

Accidents on Steam Railways in 1917-1918.

The Railways Department report for the year ended June 30, 1918, deals with accidents to life and limb under two heads, viz: those caused by the movement of trains, and those from other causes. The following tables give the details:

	By Movement of Trains.			
	Killed		Injured	
	1917-18	1916-17	1917-18	1916-17
Passengers	32	24	322	410
Employes	154	177	1,868	1,909
Trespassers	129	150	140	124
Non-trespassers	64	64	173	193
Postal clerks, etc.....	4	4	46	46
Total	383	419	2,549	2,682

	Other Causes.			
	Killed		Injured	
	1917-18	1916-17	1917-18	1916-17
Passengers	22	22
Trackmen, etc.....	6	8	798	653
Station men	3	0	434	371
Shopmen	4	7	1,188	952
Other employes	11	17	1,064	711
Other persons	3	1	34	38
Total	27	33	3,540	2,747

Grand total.....410 452 6,089 5,429

The number of accidents at railway crossings of highways was 132, against 144 for the year ended June 30, 1917. The number of highway crossings by railways at June 30, 1918, was 26,894, of which 2,077 were protected by gates, bridges, subways, or other means, and 24,817 were unprotected.

Great Northern Railway's Report for 1918.

The directors report for the calendar year 1918, states that the company's railways were taken over for operation by the United States Government Jan. 1, 1918. The contract under which this was done provides that each of the Canadian railway companies which had theretofore been operated with and as a part of the Great Northern Ry.'s sys-

tem of transportation, shall continue to maintain and operate its railways in conjunction and co-operation with the Director General's operation of the G.N.R. Co.'s railways, as nearly as possible, in the same manner as they were operated prior to U.S. federal control. The Canadian companies thus included in the contract are: The Midland Ry. of Manitoba; Manitoba Great Northern Ry.; Brandon, Saskatchewan and Hudson Bay Ry.; Crownstern Southern Ry.; Nelson and Fort Sheppard Ry.; Red Mountain Ry.; Vancouver, Victoria and Eastern Ry. and Navigation Co.; New Westminster Southern Ry.

The annual compensation to be paid by the U.S. Government for the use of all the G.N.R. lines is \$28,771,360.78, which is the average annual railway operating income of the several companies for the three years from July 1, 1914 to June 30, 1917.

The company's investment in Canadian companies, on account of advances made to pay for property, construction additions and betterments was increased during the year as follows:—Brandon, Saskatchewan and Hudson Bay Ry., \$1,276.26; Manitoba Great Northern Ry., \$4,840.30; Nelson and Fort Sheppard Ry., \$1,846.65; Red Mountain Ry., \$28.74; Total, \$7,991.95.

Taxation of Steam Railways.

Taxes are collected from Canadian railways by the various provinces, as well as by the municipalities therein. The total amount paid by the Canadian railways in respect of lines in Canada, and to state and municipal authorities in respect of their lines in the United States, for the year ended June 30, 1918, was \$4,011,088.38, against \$4,354,172.52 for the year ended June 30, 1917. The following are details as given in the Railways Department's report:

	Provincial tax.	Municipal tax.	Total tax.
Nova Scotia \$	25.00	1,680.13	\$ 1,705.13
New Brunswick	54,262.11	4,184.10	58,446.21
Quebec	117,756.25	507,060.11	624,816.36
Ontario	702,756.25	990,589.39	1,693,345.64
Manitoba	234,543.48	102,597.34	337,140.82
Saskatchewan	135,999.20	27,187.17	163,186.37
Alberta	112,611.82	97,455.51	210,067.33
British Columbia	457,819.91	291,602.88	749,422.79
Yukon	6,826.17	749,422.79
Outside of Canada	159,476.45	6,871.37	166,347.82
Totals.....	\$1,981,860.38	\$2,029,228.00	\$4,011,088.38

Ties Used for Maintenance on Steam Railways.

The consumption of ties on Canadian steam railways during the year ended June 30, 1918, apart from those used for construction work on new mileage was, according to the Railways Department's report, as follows:

	1917-1918	1916-1917
Ties used	7,785,831	8,852,861
Total cost	4,701,312	4,368,124
Cost per tie	60.3c	49.3c

The following details are given:

	Number	Total cost	Average
Cedar	610,158	\$ 381,377	62.5c
Oak	686,886	592,747	86.3
Hemlock	304,108	187,211	45.1
Spruce	88,087	28,645	32.4
Fir	63,678	25,903	40.6
Tamarack	180,269	102,526	56.5
Pine	1,309,852	995,596	54.0
Chestnut	134,087	24,724	67.7
Treated	3,106,636	1,471,266	53.3
Unclassified	1,233,655	941,317	76.3
Total	7,785,831	\$4,701,312	60.3c

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TORONTO, CANADA, AUGUST, 1919.

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

Timiskaming and Northern Ontario
Railwaymen's Patriotic Association, con-
tributed \$99,446.50 to the Canadian Red
Cross Society and the Canadian Patriotic
Fund up to Feb. 28.

PERSONAL NOTES.

Mrs. Insketter, widow of Lt.-Col. G. A.
Insketter, who was killed in France,
while in command of the 4th Divisional
Canadian Engineers, in 1916, died at
Waterdown, Ont., July 18, aged 31.

Lt.-Col. C. W. P. Ramsey, C.M.G., for-
merly Engineer of Construction, Eastern
Lines, C.P.R., Montreal who has returned
to C.P.R. service after four years active
service overseas, was born at Bury,
Que., Jan. 15, 1883, and entered C.P.R.
service as apprentice in the Mechanical
Department, in 1893, in the company's
Delormier Ave. shops, Montreal. From
that date to Sept. 19, 1903, he served the
company in various minor capacities, and
on the latter date he was appointed
draftsman in the Construction Depart-
ment, Montreal, and then passed through
the various grades of transitmen, Assis-
tant Engineer and Division Engineer, to
Mar. 15, 1912, when he was appointed
Engineer of Construction, Eastern Lines,
and continued in that position until Feb.
25, 1915, when he was granted extended
leave of absence to take command of the
Canadian Overseas Railway Construction
Corps. He was made a Companion of
the Order of St. Michael and St. George,
for services in the field, in June 1916,
and in 1918 was seconded to the War De-
partment, London, Eng. for special ser-
vices there. During his connection with
the construction of the Lindsay, Bobcay-
geon & Pontypool Ry., the Toronto-Sud-
bury Branch, and the double tracking of
considerable portions of the Eastern
Lines, and lastly he had charge of con-
struction of the Campbellford, Lake On-
tario & Western Ry., which constitutes
the C.P.R. Lake Shore Line from Glen
Tay to Agincourt, Ont. He is at present
relieving superintendents on Eastern
Lines, who are on their vacations.

Lieut.-Col. Blair Ripley, C.B.E., D.S.O.,
formerly Engineer of Grade Separation,
C.P.R., Toronto, who has returned to
the company's service after his active
military service overseas, was born at
Oxford, N.S., Aug. 29, 1880, and was
from 1901 to 1903, Assistant Engineer,
Canadian Northwest Irrigation Co., Great
Falls & Canada Co., Alberta Ry. & Coal
Co., and St. Marys River Ry., in Alberta
and Montana respectively; 1903 to 1905,
Chief Engineer of Construction, St.
Marys River Ry. in Alberta, and from
1904 to 1905, also Chief Engineer of
Construction, Alberta Ry. & Irrigation
Co.; 1905 to 1907, Resident Engineer on
Construction, Grand Trunk Pacific Ry.
in Manitoba and Saskatchewan, and As-
sistant Engineer on harbor work, G.T.P.
R., Prince Rupert, B.C.; 1907 to May 1,
1916, Resident Engineer on grade revision,
C.P.R., Maple Creek to Medicine
Hat, Alta.; Resident Engineer on field
work, Lethbridge viaduct, C.P.R.; Assis-
tant Engineer in charge, Old Man River
viaduct, C.P.R., Macleod, Alta.; Assis-
tant Engineer in charge, Outlook viaduct,
C.P.R., Outlook, Sask. On the comple-
tion of these works he was sent by the
C.P.R. to Nova Scotia to report on bet-
terments and improvements for the Do-

minion Atlantic Ry., and to organize and
prepare for the replacement of some
large and difficult bridges on the waters
of the Bay of Fundy. In 1912 he was
appointed Engineer in charge of Grade
Separation, C.P.R., North Toronto. In
1916 he was appointed Lieutenant-Col-
onel of the Canadian Railway Troops,
raised for general railway and bridge
construction work at the front. He was
subsequently given the D.S.O. for ser-
vices in the field and at the close of the
war was made a Commander of the
Order of the British Empire.

Lieut.-Col. John Wise, who has been
given the Distinguished Service Order,
the Military Cross and the Croix de
Guerre, entered the Nova Scotia Tram-
ways & Power Co.'s employ, as a motor-
man, Apr. 29, 1913, working in that ca-
pacity until Apr. 28, 1914, when he was
granted three weeks leave of absence on
account of illness. He did not return to
work, and in Oct., 1914, enlisted in the
25th Nova Scotia Battalion, as a private.
When the battalion left for England,
about six months later, he was acting
sergeant. He received his commission
as lieutenant in France, was promoted to
captain, then major, and finally lieuten-
ant-colonel of the battalion in which he
enlisted.

Major G. A. Wood, M.C., who returned
to Toronto from overseas, July 9, was,
before entering military service, with
the Toronto Harbor Commission, and is
a son of D. O. Wood, Traffic Manager,
Export and Import Department, Cana-
dian National Rys., Toronto. He gradu-
ated from the School of Practical
Science, Toronto University, in Apr.,
1915, with the degree of B.A. Sc., and
entered Toronto Harbor Commission's
service in that year under the Chief En-
gineer. He received a commission as
lieutenant in the Corps of Guides and
went overseas in Nov., 1915, joining the
Royal Flying Corps in England, where
he received his training. He was later
selected as a flying patrol man, and was
sent to France in June, 1916, beginning
his work in the Somme offensive, July
1, 1916. He was made captain on the
field in Nov., 1916, and was awarded the
Military Cross in June, 1917, for good
services in France, having, after 9
months of flying, many enemy machines
to his credit, and several narrow escapes.
In 1917 he was transferred to the United
Kingdom, having passed through his
service in France without a scratch and
with nerves unshattered. On account of
his knowledge of the aeroplane, and be-
ing a science graduate, he was selected
to lecture on construction matters to
young officers, on the various subjects
connected with flying, and he also
designed a strengthener for the substruc-
ture of battle planes, which was adopted
by the Air Board, and used on several
machines in active service. He was pro-
moted to major in Mar., 1918, and was
specially selected to establish the first
Royal Air Force training camp in Ire-
land, and later established a second one,
at Collinstown, Ireland.

Montreal Incline Ry.—A press report,
July 14, states that the company, which
is in the hands of a receiver, has refused
the terms offered by the Montreal Ad-
ministrative Commission, and that the
railway will not be operated this year.

Transportation Appointments Throughout Canada.

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

Canadian Government Merchant Marine Ltd. D. O. WOOD, Traffic Manager, Export & Import Department, Canadian National Rys., Toronto, is handling traffic matters for Canadian Government Merchant Marine Ltd., until such time as it may be necessary to appoint a separate staff. W. A. CUNNINGHAM, Export & Import Freight Agent, Canadian National Rys., Montreal, is doing the booking of traffic intended for C.G.M.M. ships.

Canadian National Rys.—W. H. BEVAN has been appointed Division Engineer, Ottawa Division. Office, Ottawa.

R. B. JENNINGS has been appointed Division Engineer, Toronto Division. Office, Rosedale, Ont.

R. KING, who has been acting as Superintendent at Fort William, Ont., during the absence of R. S. Richardson on active service, is now acting as relieving Superintendent on Western Lines.

J. J. LEYDON, heretofore City Ticket Agent, Halifax, N.S., has been appointed City Passenger Agent there as reported in our last issue.

S. McILWAIN has been appointed Division Engineer, Nipissing Division. Office, Capreol, Ont.

K. E. McLEOD has been appointed District Passenger Agent, British Columbia Lines. Office, Vancouver, B.C.

G. P. MacLAREN, has been appointed District Engineer, Ontario District. Office, Toronto.

W. C. MOIR, has been appointed acting City Ticket Agent, Halifax, N.S., vice J. J. Leydon, City Ticket Agent, promoted.

H. K. MORRISON has been appointed Division Engineer, Superior Division. Office, Hornepayne, Ont.

L. F. MUNCEY has been appointed Assistant Superintendent, Pacific District, Vancouver, B.C.

R. S. RICHARDSON, recently on active service as Lieutenant, with No. 13 Light Railway Company, B.E.F., and formerly Superintendent, District 3, Transcontinental Division, Canadian Government Rys., Fort William, Ont., has resumed duty there as Superintendent, Canadian National Rys.

GUY TOMBS, Assistant Freight Traffic Manager, Montreal, has resigned an appointment as Traffic Manager, Canadian Export Paper Co. and allied interests.

Canadian Pacific Ocean Services Ltd.—CAPT. A. W. DAVISON, R.N.R., master of the company's s.s. Empress of Asia, is reported to have been appointed Marine Superintendent at Hong Kong, China.

Commander THOMAS FISHER, R.N., has been appointed General Manager, Atlantic Lines. Office, 8 Waterloo Place, London, Eng.

G. N. JACKSON, heretofore Agent, Manila, Philippine Islands, has been appointed Agent, New York, vice E. T. Stebbing, whose appointment as Passenger Manager for Great Britain and the European Continent, Liverpool, Eng., was announced in our last issue.

JOHN R. SHAW, heretofore Agent, New York, N.Y., has been appointed

Agent, Manila, Philippine Islands, vice G. N. Jackson, transferred to New York.

Canadian Pacific Ry.—K. K. DONNELLY, heretofore Purchasing Agent, Vancouver, B.C., has been appointed Purchasing Agent, Winnipeg, vice F. E. Gauthier, deceased.

A. HAYWARD, has been appointed Locomotive Foreman, Red Deer, Alta., vice J. McGown.

Grand Trunk Ry.—W. BIBBY, Supervisor of Track, District 4, Montreal Division, has had his jurisdiction changed to cover section 516, Cornwall, east to Montreal West station. Office, Montreal.

N. C. FOSS, Assistant Purchasing Agent, and General Storekeeper, Pere Marquette Rd., Detroit, Mich., is reported to have resigned to enter G.T.R. service.

J. B. FRANKLIN, Supervisor of Track, District 5, Montreal Division, has had his jurisdiction changed to cover sections from Cornwall, Ont., including Sec. 517 to Manitoba Yard. Office, Brockville, Ont.

JOHN HARROWER, heretofore draftsman and supervisor of apprentices, has been appointed acting Chief Draftsman, Car Department, vice W. J. Hyman, Chief Draftsman, resigned. Office, Montreal.

C. A. SAYLOR, heretofore Locomotive Foreman, Windsor, Ont., has been appointed Locomotive Foreman, Sarnia, Ont.

A. A. SNYDER has been appointed acting Supervisor of Track, District 4, Montreal Division, vice W. Bibby, assigned to other duties. Office, Montreal.

W. H. WENSLEY, has been appointed Locomotive Foreman, Windsor, Ont., vice C. A. Saylor, transferred to Sarnia, Ont.

Grand Trunk Lines in New England (U.S.R.A.), A. B. McNAUGHTON, Superintendent, has had his office removed from Island Pond, Vt., to Portland, Me.

Inverness Ry. & Coal Co.—J. MacGILLIVRAY, Receiver and Manager, having resigned, the Eastern Trust Co., Halifax, N.S., has been appointed Receiver, and has appointed R. E. McLeod to manage the mines and railway.

Pere Marquette Rd. (U.S.R.A.)—W. BRACY, has been appointed Tie and Timber Agent. Office, Detroit, Moch.

C. R. COUCHMAN, heretofore Tie and Timber Agent, is reported to have been appointed Assistant Purchasing Agent, and General Storekeeper, vice N. C. Foss, resigned to enter G.T.R. service.

United States Railroad Administration—A. T. HARDIN, heretofore Assistant Regional Director, Eastern Region, has been appointed Regional Director, Eastern Region, succeeding A. H. Smith, resigned.

The **Cornwall Terminal Co.**, is the title of a business concern which purposes to handle pulpwood from Quebec and New Brunswick, destined for pulp mills in various parts of New York State. Among those interested are B. H. Brown, W. T. Rodden, F. C. Shorey, Montreal, who are reported, July 17, to have visited Cornwall, Ont., and interviewed the municipal authorities with a view to securing a guarantee of \$50,000 of bonds.

The Canadian Railway Troops' Splendid Work in the War.

Since the article under the above heading was published in Canadian Railway and Marine World for July, we have received some additional information which enables us to give a number of names not mentioned in the Minister of Canadian Overseas Military Forces' report.

It was stated that in 1914 some well known Canadian railway contractors requested the Militia Department to be allowed to raise a railway construction unit, but on account of the French General Staff having at that time assumed the entire responsibility for the maintenance and construction of railways in the British Armies' zone on the western front, the proposal was not approved. The contractors referred to were: Angus McDonnell, J. W. Buchanan and "Jim" Macdonald, British Columbia.

The two railway construction companies which in the spring of 1915, the War Office requested the Canadian Government to send over and of which the Canadian Pacific Railway Co. undertook the organization, and which proceeded overseas in Aug., 1905, were under command of Major C. L. Hervey and Major A. T. Lefevre, respectively, both of Montreal, each of whom now has the D.S.O.

The Canadian Overseas Railway Construction Corps, which went over in June, 1915, was under command of Lt.-Col. C.W.P. Ramsey, formerly Engineer of Construction, C.P.R., now C.M.G.

The ten battalions of Canadian Railway Troops were under the command, respectively, of the following officers, whose present ranks, etc., are given in each case. Lt.-Col. Blair Ripley, C.B.E., D.S.O., Toronto; Lieut.-Col. J. B. L. Macdonald, D.S.O., Vancouver; Lieut.-Col. C. L. Hervey, D.S.O., Montreal; Lieut.-Col. A. E. Griffin, D.S.O., Vancouver; Lieut.-Col. A. Earchman, D.S.O., Toronto; Lieut.-Col. J. B. Harstone, D.S.O., Edmonton; Lieut.-Col. J. K. Cornwall, D.S.O., Croix de Guerre, Edmonton; Lieut.-Col. W. H. Moodie, D.S.O., Winnipeg; Lieut.-Col. W. A. McConnell, D.S.O., Toronto; Lieut.-Col. W. A. Munro, D.S.O., Winnipeg; Lieut.-Col. A. C. Garner, D.S.O., Winnipeg; Lieut.-Col. S. P. McMordie, D.S.O., Prince Rupert.

Other commanding officers were as follows: Canadian Overseas Railway Construction Corps: Lieut.-Col. J. G. Reid, D.S.O.; 58th Broad Gauge Operating Co., Captain A. H. Kendall, M.C.; 13th Light Railway Operating Co., Capt. R. McKillop; 69th Waggon Erecting Co., Captain H. H. Pinch; 85th Locomotive Crew Co., Lieut. and Acting Capt. B. B. Shaw.

Brevity in Railway Reports.

"Don't be so long-winded in your reports as you have been in the past," said the manager of the Wild West Railway to his overseer. "Just report the condition of the track as ye find it, and don't put in a lot of needless words that ain't to the point. Write a business letter, not a love letter."

A few days later the railway line was badly flooded, and the overseer wrote his report to the manager in one line:—

"Sir—Where the railway was the river is.—Yours faithfully, —" —Blighty (London).

Steel Rails for Canadian Railways.

We are officially advised that up to July 12, the Dominion Iron and Steel Co. had delivered 95,257 gross tons of steel rails, on orders placed by the Dominion Government in Nov., 1918. The rails were distributed to the following railways:—

Canadian Government Rys.	Tons. 33,212
Canadian Northern Ry.	1,593
Canadian Pacific Ry.	30,873
Grand Trunk Ry.	29,413
Timiskaming and Northern Ontario Ry.	161
Total	95,257

Telegraph and Telephone Line Estimates for 1919-1920.

In addition to the Public Works Department estimates of which particulars were given in Canadian Railway and Marine World for May, pg. 287, the supplementary estimates for the year ending, Mar. 31, 1920, submitted to the House of Commons during the recent session, contained the following items, chargeable to income:—

NOVA SCOTIA.

Cape Breton telegraph system, renewal of poles between Grand Narrows and Beaver Cove.....	\$ 1,275
Cape Breton telegraph systems, renewals of poles between East Bay and Ball's Creek	1,600

NEW BRUNSWICK.

Chatham, Escuminac and Point Sapin telephone line extension from Point to Kouchibouguac, revote, \$2,000.....	2,500
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QUEBEC.

Long Point of Mingan, to rebuild office and residence	2,800
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ONTARIO.

Bath, Amherst Island telephone line, to grant subsidy of \$1,200 to Amherst Island Telephone Co., and to provide cable	2,200
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BRITISH COLUMBIA.

Caribou District, branch line, Clinton to Gong Ranch, via Kelly Lake, 50 miles	10,000
Construction to telephone line from Slokan Jct. to Slokan City.....	6,000
Kamloops District, completion of Hefly Lake line to Blucher Hall and Adams Lake, 22 miles.....	4,500
Kamloops District, extension from Goose Lake to Long Lake (south of Kamloops), 10 miles	2,000
Kamloops District, Merrit to Kingsvale via Coldwater Valley, 20 miles.....	3,800
Kootenay, extension, Windermere to Fairmount, 18 miles	3,420
Mainland telegraph and telephone lines, general repairs and improvements, further amount required	16,000
Mainland telegraph and telephone lines, to provide for second wire between Similkameen and Princeton.....	7,300
Skeena District, to complete branch line, Houston to west end, Ootsa Lake	1,516
Skeena District, establishment local exchange, Smithers	850
Skeena District, extension from west end Ootsa Lake to Ootsa Lake post office and Francois Lake.....	7,200
South Okanagan, extend Marron Lake Branch 4 miles to Lusk's Ranch.....	700
South Okanagan, branch line from Okanagan Falls to Mathison wharf to Myers' Flat, 15½ miles.....	3,000
Vancouver Island, extension of telegraph or telephone line, Shaw Cove to Egmont	3,350
Vancouver Island, construction of branch telephone line from Sechelt to Shaw Cove	2,500
Vancouver Island, extension from Squamish (Newport) to Cheakamus House	2,100
Vancouver Island, construction of branch telephone line from Vancouver Island to Port Harvey on Cracroft Island	7,500
Contingencies	5,000
VARIOUS.	
	\$ 97,111

Telegraph, Telephone and Cable Matters.

The Board of Railway Commissioners has approved the Marconi Wireless Telegraph Co. of Canada's conditions for the acceptance of marconigrams filed for transmission via C.P.R. telegraphs, Great Northwestern Telegraph Co. and Western Union Telegraph Co.

A London, Eng., dispatch of July 25, states that the Marconi Co. has been awarded £500,000 damages against the British Government, for breach of contract in connection with the construction of an Imperial wireless telegraph system. The company's claim was for £1,000,000.

It is announced that cablegram and telegraph money transfer business is now conducted between Canada and points in Germany. The restrictions which were in force during the war have been modified to the extent that business messages in plain English or French may be accepted for German points. Personal messages, or personal matters in business messages, are not permitted, and code addresses must not be used.

The laying of the Atlantic cable has always been a source of dispute as to who is entitled to the credit. It is generally claimed that the credit should go to the U.S. and the U.S. Ambassador, at a recent dinner in London, Eng., claimed that "Cyrus Field tied the two sides together with cables." Chas. Bright, in the London Times, however, has said "that the first Atlantic cable was laid by my father, the late Sir Chas. T. Bright, for which he was knighted at the age of 26. Cyrus Field was Managing Director of the company concerned in the project."

Judgment on Express Companies Application for Increased Rates.

The Board of Railway Commissioners gave judgment recently in regard to the express companies' application for increased rates. The judgment is a lengthy one, and declares that railways and express companies are carrying on business at a large loss. Increases are allowed in the general merchandise scale, and in the special scale N, those in the former case averaging 45.94% in the east; 23.75% in the prairie provinces, and 11.48% in British Columbia. The higher rates in the east are accounted for by the abolition of discriminatory rates and the extension of similar treatment to all districts. The present rates in the prairie provinces average 39.55% higher than those in the east, and under the new rates are 17.88% higher; in British Columbia the averages are, 29.29% and 15.01%, respectively, above those in the east.

The increases in scale N are tempered by changes in the basing and graduate tables, and the reduction from first class by absolute, instead of average, deductions. The result in this scale will be to increase the cost per lb. by one-fifth of a cent for the 50 mile distance, and for a movement of 450 miles, to increase the cost of transportation two-fifths of a cent per lb.

In giving judgment, the Chief Commissioner said: "I am ready to admit that the value of all the commodities has very greatly increased since commodity rates first came in, and that one of the

elements in rate making relates to the value of the commodity carried and to the increased risk undertaken. As against the shippers and vendors of these articles of daily necessity, there is no difficulty in the express companies justifying a reasonable increase. I do not think, however, that the matter ought to be considered at the moment. The companies will obtain a fair measure of increase in their first and second class rates. That increase, it is hoped, will prove sufficient to properly maintain the companies and the business, but whatever increase is placed on these commodities would form a reason, a comparatively small one, it is true, in most instances, but still a reason, for further increases in the charge made to the consumer. In the past experience it would appear that the increase in charge to the consumer would be much greater than the increased cost per pound or per pint of the commodity. The cost of living is still mounting. As I see it, it is not to the public interest, and not to the interest of the express companies themselves, to afford the excuse that a raise in the price of transportation of these essential commodities would give for still higher charges against the public. Over and above the essential interest of the consumer, a further and very real ground for withholding increases in these commodity rates, unless it proves to be absolutely necessary, lies in the position of the producer. The commodity rates are the producer's rates. He produces in quantity and ships in bulk. On the pound unit of production his resultant profit is small. His costs have greatly increased. I would dismiss the companies' applications, in so far as the commodity rates are concerned, entirely."

The judgment also increased the wagon service of the companies, extending it on the basis of population. Other changes were made in the companies' tariffs, providing that goods will be carried at a lower rate than hitherto, when originating in, or being delivered to, points without a wagon service. This reduction is 30c per 100 lb., and between points where but one wagon service exists, 15c per 100 lb., having regard in each case to the appropriate graduate table. The graduate table has been recast under multiples of 5, and the pound unit is extended from 10 to 15 lb.

CANADIAN NATIONAL RAILWAYS —EASTERN LINES

Quebec District.

SEALED TENDERS addressed to the undersigned will be received until 12 o'clock noon, Saturday, August 9th, 1919, for the erection of a Station Building at Chicoutimi.

Plans and specifications may be seen at the office of the District Engineer, Champlain Market, Quebec, Que., and at the office of the Division Engineer, Tunnel Terminal Station Building, Cor. Lagachetiere and St. Monique streets, Montreal, Que.

Tenders will not be considered unless accompanied by an accepted cheque on a chartered bank equal to 5% of the full amount of the Tender, payable to the order of Treasurer, Canadian National Railways.

Lowest or any Tender not necessarily accepted.

A. F. STEWART,
Chief Engineer,
Eastern Lines, Can. National Railways,
No. 27 Wellington St. East, Toronto.

During the last 8 years, revolutionists and bandits have destroyed 10,000 freight cars, and many passenger cars, in Mexico.

Electric Railway Department

Proposed Lease of Guelph Radial Railway by Grand River Railway.

Negotiations have been going on for some little time between Canadian Pacific Ry. and Grand River Ry. officials on the one hand, and Guelph, Ont., city officials on the other hand, for the leasing of the Guelph Radial Ry. to the Grand River Ry. At a special meeting of the Guelph City Council, July 15, it was decided to submit to a vote of the ratepayers, Aug. 11, a bylaw approving of an agreement between the city as owner of the Guelph Radial Ry., and the Grand River Ry. Co., for the lease of the Guelph Radial Ry. to the Grand River Ry. Co.

The agreement, as set out in the bylaw, is made between the Grand River Ry. as purchaser of the franchise of the Galt, Preston and Hespeler St. Ry., the Guelph Radial Ry., and the corporation of the City of Guelph, and is to run for 25 years, from Sept. 1, 1919. The Grand River Ry. agrees to undertake the management and operation of the Guelph Radial Ry., in all respects the same as its own line, provided that the cost of management, as distinct from the cost of operation shall be no greater than that of its own line; as soon as the bylaw approving the agreement is passed to spend \$16,500 on the roadbed, overhead work and equipment (other than rolling stock), of the leased line, and any additional amount required for repairs to be provided from time to time from the gross earnings of the leased line; to build a line from its present terminus at Hespeler to connect the same with the leased line in Guelph, and to build a spur or branch line from some point on that line to the city's property at Puslinch Lake. This line is to be built within a year, and the city agrees to grant land at the lake for terminal purposes, such land to be returned to the city in the event of the spur line ever being taken up. The Grand River Ry. is to operate a service on the leased line on a 10-minute headway, as soon as the improvements have been effected. The leased line is to be operated for the joint benefit of the two railways, and the proceeds after paying operating expenses, etc., are to be divided equally between the two companies. The fixed charges to be met are stated to be interest on \$169,000 of debentures, issued by the city, and it is provided that the city may issue other debentures in respect to capital expenditure for which it may be liable. Any deficit is to be borne by the city, and the Guelph Radial Ry. All rolling stock, plant and material on hand at the time of transfer may be used or sold by the lessee, but the value of the same is to be credited to the Guelph Radial Ry., the proceeds of the sale of the present cars to be applied to the cost of purchasing 10 one-man cars, or such other number as may be required to provide the 10-minute service agreed to. Such additional rolling stock as may be required and the purchase of which is agreed upon is to be paid for out of the Guelph Radial Ry.'s share of the profits of operation. The fares are to be as follows: Single cash fare, 5c; six tickets to be sold for 25c for limited hour traffic, and children's tickets, 10 for 25c. Other pro-

visions in the agreement refer to the carrying of freight traffic; the method of accounting, the contracts with the Hydro Electric Power Commission of Ontario for power, etc. The final clauses provide that the agreement may be cancelled at any time by the city on the non-fulfilment of any of its terms, and that it may be renewed upon termination for a further term of 25 years. In the course of the discussion it was stated that the city would probably have to issue an additional \$30,000 of debentures in connection with the line; that the estimated cost of the extension from Hespeler to Guelph was \$400,000, and that the spur to Puslinch Lake would leave the main line either at Kribbs Mills, or the lime kiln, approximately the same point as was projected when the city proposed to build a line to Hespeler with a branch to Puslinch Lake.

The agreement has to receive the Hydro Electric Power Commission of Ontario's consent; the City of Guelph having passed a bylaw in 1916 with respect to the construction of an electric railway from Toronto to Windsor, under the terms of the Hydro Electric Railways Act of 1914.

The Guelph Ry. Co was incorporated by the Ontario Legislature in 1895 to carry out an agreement made Aug. 7, 1894 between the Guelph City Council and George Sherman for the construction of an electric railway in the city. The title of the company was changed in 1903 to the Guelph Radial Ry., and the line subsequently passed under the city's control. The company has power under the act of 1908 and amending acts, to build a line to Hespeler with a branch to Puslinch Lake. The Guelph Radial Ry. has 8.03 miles of first main track. It has \$193,000, of common stock, held by the city. It has 8 closed and 3 open cars, 1 snow plough, 1 sweeper and 1 locomotive. For the year ended June 30, 1918, its gross earnings from all sources were \$52,814, and its operating expenses \$41,280. No taxes were paid. It carried 1,125,552 fare passengers and 23,712 tons of freight.

The Grand River Ry. Co. is a C.P.R. subsidiary owning or controlling the Galt, Preston and Hespeler St. Ry. and the Preston and Berlin Ry., and has power to build a number of other lines which was obtained under the title of the Berlin, Waterloo, Wellesley and Lake Huron Ry. Co. This company took over the G.P. and H. St. Ry. and P. and B.R. and subsequently its name was changed to the Grand River Ry. at the Dominion Parliament's recent session, the section of the act authorizing the amalgamation of these two lines of railway, but which declared that they were still to remain subject to the jurisdiction of the Ontario Legislature was repealed, thus bringing them under the control of the Dominion Parliament. The Grand River Ry. is operated under the same management as the Lake Erie and Northern Ry.; another C.P.R. subsidiary, with which it connects at Galt and which runs from there to Port Dover, 51 miles.

Sir Adam Beck Intervenes—The Ontario Hydro Electric Railway Association's executive committee, at a meet-

ing in Toronto, July 23, at which Sir Adam Beck was present, passed the following resolution:—"That the executive officers of the association be directed to assist Guelph citizens in the defeat of the proposed bylaw in the agreement with the Grand River Ry. and any such agreement which is against the interests of other municipalities having a hydro electric railway agreement which Guelph is party thereto. The executive council associations strongly urges the Hydro Electric Power Commission of Ontario to withhold its consent to all agreements with municipalities, which in any way conflict with any proposed or contemplated hydro electric railway when a contract with such railway has received the assent of the electors, having in view not only the interests of other municipalities, but the contemplated provincial system of hydro electric railway construction."

The Winnipeg Sympathetic Strike and the Winnipeg Electric Railway.

Winnipeg's general sympathetic strike was called off by the strike committee on June 26, at 11 a.m., having lasted exactly six weeks, and having accomplished practically nothing. An article in Canadian Railway and Marine World for July described the early developments of the strike, and told of the attempt of the strike leaders to completely tie up all industries and public utilities in the city. The splendid voluntary services of the citizens, who resisted such a ruthless assault, and who saw in it an attempt to establish the rule of the Soviet, kept all utilities operating, and after the third week of the strike, employees began to drift back to their respective jobs. The city council, however, decided not to take back any employees who refused to sign a pledge, expressing complete loyalty to the city, declining to join a union affiliated with any outside organization, and also refusing at all times to go out on sympathetic strike. This applied to the firemen and policemen, who went out on strike at the strike committee call, and now all utilities are manned by regular staffs, while the majority of the former police and firemen are back on their old jobs, having "signed the pledge." The ignominious ending of the strike, resulting in complete defeat for the strikers, when, had they accepted the proffered arbitration at first they would most certainly have gained something, has resulted in a serious split in the labor ranks. The saner element are dissociating themselves from the more radical trade unionists, and denunciation of the strike leaders by the mass of the workers is general.

As previously stated, the Winnipeg Electric Ry. was ordered by the city council to resume service after the strike had been in progress four weeks. The company made an appeal to the men to return, but without success, and on June 17, A. W. McLimont, Vice President and General Manager, issued an ultimatum,

which stated "Employees who do not report, and are not available when required to enable the company to resume service, will be replaced by permanent new employees, and will lose their seniority. New employes taken into the service will not be dismissed, to make places for any old employe who may subsequently decide to return to duty." This ultimatum expired at 8 a.m., June 19th, and resulted in several employes returning to work. These, together with supervisors and inspectors, manned the cars and gave service on the principal lines of the city. Fourteen cars were operated on June 19, and this number was gradually increased up to 50 cars by the time the strike was called off. Upon "peace" being declared the company's employes returned in a body and normal service was restored in the course of a day or so.

The strike, on a whole, was a very orderly one. On two occasions the strikers clashed with the special police, but only on the recent occasion, June 21, were street cars running. One of the cars had to pass a large crowd of strikers, who were forming up in a parade in defiance of the mayor's proclamation. The crowd attacked the car, pulled the

trolley off, smashed every window, and tried many times in vain to upset the car. Unable to do this they piled newspapers in the interior, and set fire to them. Just at this moment a detachment of Royal Northwest Mounted Police arrived on the scene, the fire was put out, and the car was driven back to the barns. At the time they sought to rescue the car the mounted police were stoned by the crowd, and this resulted in the police retaliating with their revolvers. Two of the crowd were killed, and scores injured.

One offshoot of the strike is the arrest of a number of the strike leaders, who face charges of seditious conspiracy.

During the six weeks of the strike many employers filled the vacancies caused when their workers were called out on sympathetic strike, and the ending of the strike left hundreds of men and women without employment.

The strike was called off by the strike committee unconditionally, but the Manitoba Government has appointed H. A. Robson, former Public Utilities Commissioner for Manitoba, as a commissioner to enquire into the origin and the whole circumstances surrounding it.

Increases in Electric Railway Fares, Etc.

British Columbia Electric Ry.—The first case to come before the Public Utilities Commissioner for British Columbia recently in connection with electric railways, was the application of the British Columbia Electric Ry. for power to increase its fare to 6c on its Vancouver lines. The application was heard July 10, and decision was reserved on certain points of procedure. Section 11 of the act provides that no new rates of fare can be put in operation without the commissioner's approval, but subsection 2 makes an exception in favor of the B.C.E.R. Co. in respect to its Vancouver and mainland lines. The effect of the subsection is that the company was permitted to charge a rate of 6c from April 9, the excess over the former rate to be paid into a special account and retained there until the commissioner should fix a rate, when, in the event of the 6c rate being established, the money was to be paid over to the company, or in the event of the old rate being established the money would be paid to the Vancouver City Hospital. The burden of proof of the necessity for an increase of rates rests with the company.

At the opening of the hearing the commissioner laid down the mode of procedure viz: that the company's case be presented in two parts: (1) The investment and the present value of the property, with reference to the appraisal, and (2) revenue and expenditure, with reference to profit and loss and maintenance and operation. W. G. Murrin, Assistant General Manager, argued that the investigation must cover the company's business as a whole, as no one rate was independent of the others. Of the company's total revenue, 28% comes from Vancouver, and any serious interference with that would affect the credit of the company, and make it difficult, if not impossible to raise money for equipment, rolling stock, extensions, etc. The highest return during the last five years was 3.5% on the book values; and no dividend has been paid to the holders of ordinary stock since 1914. G.

E. McCrossen, counsel for the city, claimed that the application should be tried on its merits as a local issue arising out of a violation of the franchise and that the issue should be limited to the city limits of Vancouver, except to include Hastings Townsite and D.L. 301. The mayor claimed that the company should be required to operate its lines under the terms of the franchise granted by the city.

The Hull Electric Co. made a number of changes in its passenger fares June 15. The fares within Hull city limits remain as before, the changes affecting suburban points only and being in several cases an advance of 5c on previous fares, but they do not exceed the standard mileage rate of 2.875 which the Board of Railway Commissioners authorized some time ago.

Lethbridge Municipal Ry.—The Lethbridge, Alta., City Council took up recently the consideration of a proposal to increase the charges for all public utilities. The proposal includes, according to a press dispatch, the raising of fares on the municipal railway to 10c cash, or 4 tickets for 25c. The reason for this proposal is stated to be the recent decision of a board of conciliation granting an all round increase of 15% to civic employes.

London and Port Stanley Ry.—The Dominion Parliament has confirmed the agreement with the City of London authorizing the charging of 50c return fares for adults and 25c return for children between 4 and 12 years on the semi-weekly excursion trains from London to Port Stanley, Ont., in place of the 30c return fare for adults and children, between May 15 and Oct. 15, authorized by the original agreement of Nov. 28, 1913. The new fares are to be in operation on Wednesday and Saturdays, from May 24 to Sept. 10.

Moncton Tramways, Electricity and Gas Co.—The New Brunswick Public Utilities Commission is reported to have made an order June 26, authorizing the Moncton Tramways, Electricity and Gas Co.

to do away with special tickets for workmen and children. In Nov., 1918, the commission authorized the raising of the fare from 6 tickets for 25c, to a straight 5c rate, and gave power to abolish the limited hour tickets for workmen at 8 for 25c, but made no change in regard to the school children's tickets at 8 for 25c. The new schedule was to remain in force for four months. An investigation of the company's books was directed to be made and R. Carter, Halifax, has been engaged in the work. The order made in Nov., 1918, now appears to have been varied so as to authorize the company to charge a straight 5c fare for all classes of passengers, and at all hours of the day.

Montreal Tramways Co.—The Montreal Tramways Commission was reported on July 2 to be studying the fare question on the M.T. Co.'s lines for this year. The increase of wages agreed to recently means that an additional expenditure of approximately \$1,300,000 will have to be provided for as well as some other expenditures. The commission has before it the complete figures of the operations for the year ended June 30, and the estimates of the requirements for this year. Under the new franchise plan the commission has power to fix the fares at such figures as will produce the revenue required to pay operating expenses, maintenance, interest at 6% on a capital of \$36,286,000, and a rental to the city of \$500,000.

Waterloo-Wellington Ry. Offered for Sale.

A press report states that the electric railway owned by the Berlin and Bridgeport Electric St. Ry., the title of which was changed in 1912 to the Berlin and Northern Ry., and which was further changed at the Ontario Legislature's last session to the Waterloo-Wellington Ry., has been offered to the City of Kitchener, Ont., which already owns the street railway in the city. The line extends from Kitchener to Bridgeport, Elora and Fergus. The present franchise has three years to run. W. H. Breithaupt, Kitchener, Ont., is President.

We are officially advised that the proposal is being considered by the Kitchener Light Commissioners who have charge of the city's street railway department. Under the terms of the franchise the city has the option of taking over the railway in 1922, but Mr. W. H. Breithaupt is willing to sell the line, plant, etc., at once. The property consists of 35 miles of line, with a park and casino at Bridgeport; 1 double track car and 2 single track cars. Power is supplied from the Kitchener and Waterloo St. Ry.'s plant.

Kamloops - Kelowna Power Development—A project is reported to have been initiated at Vernon, B.C., for the development of a hydro-electric power plant at Shuswap Falls, on the Adams River, for the supply of power for the district lying between Kamloops and Kelowna. It is stated that one of the objects of the promoters is to supply power for the operation of the Canadian National Rys'. Kamloops-Vernon-Lumby line, now under construction. Arrangements are reported to be in progress for holding a conference of the municipalities of the area to give further consideration to the plans.

The Toronto Railway Employees' Strike.

The strike of Toronto Ry. employes, which commenced at midnight, June 21, ended with the renewal of car operation on July 4 at 5 a.m. The wage schedule under which the men were working, expired June 15, and prior to this, they had given notice of a demand for a flat rate of 55c an hour, an 8 hr. day, and several changes in working conditions. An agreement, made between the company and the men on June 16, 1917, for two years, provided wages, per hour, as follows:

Motormen, conductors and motor and truck repair men: First 6 months, 30c; second 6 months, 32c; second year, 35c; third and subsequent years, 37c.

Shedmen: Foremen, 37c; operating shedmen, 33c; general shedmen, 32c; car cleaners, 31c.

Sunday work was paid an additional 4c an hour, platform time, and emergency crews and motor and truck repair men were paid time and one-fifth. Towards the end of 1918, the men decided to ignore this agreement, and asked for an increase by way of bonus, commensurate with the increased cost of living, which they claimed to average from 29.7 to 53.3%. They applied for the appointment of a board of conciliation, but the company objected on the ground that a wage agreement was in existence. The Labor Department, however, granted the application, and a board was appointed, consisting of County Judge Barron, Stratford, Ont.; F. H. Phippen, K.C., representing the company, and H. W. Harper, the men. A majority report, signed by the two first named, recommended that employes, whose wages under the schedule were 30c an hour, be given an increase of 2½c, and all other employes an increase of 2c an hour, dating from Nov. 1, 1918. The men's representative, in a minority report, held that the men were entitled to their full demands, but the award was put into effect.

During June, steps were taken by various public bodies with a view to heading off a strike, and the mayor held numerous conferences with the company's officials, the employes, the board of trade, and the Ontario Government, as well as the board of control and the city council, when numerous suggestions, practicable and impracticable, were made and discussed, several of them being of a more or less intimidatory nature, either to the company or its employes, and as a consequence, considerable bitter feeling was engendered. A proposal to the Ontario Premier, that a royal commission be appointed to investigate the company's affairs, elicited the fact that the government had no power to grant such an application, but suggested in response that both sides agree to submit the dispute to a commission to be appointed by the government, on the understanding that the decision be binding on both parties, but this offer was declined.

The Toronto Ry.'s General Manager received a delegation of the employes June 6, to consider their demands, and stated definitely that the company was not in a financial position to meet the same, and on June 10, the company applied to the Labor Department for the appointment of a board of conciliation under the Industrial Disputes Investigation Act, and named F. H. Phippen, K.C., as its representative. The men opposed

the appointment of a board, and declined to nominate anyone to act on their behalf, and at a mass meeting, June 14, confirmed this position, but decided to postpone any action for a week, pending the outcome of negotiations between the city council and the Ontario Government. On June 20, the Labor Department appointed W. H. Hevey to represent the men on the board of conciliation, and County Judge Barron, Stratford, Ont., was appointed chairman. The board held its first meeting at Toronto, June 21, making it a general conference of all concerned, and it was agreed to hold a public meeting the same night, to further ventilate the matter. This meeting was more or less of a fiasco, each party strongly maintaining its previous position, without any signs of compromise, thus creating an impossible situation.

The men ceased work at midnight, June 21, and at a meeting of the board of control, June 23, it was decided to apply to the Ontario Railway and Municipal Board for an order to compel the Toronto Ry. to operate its cars and give an adequate service, and the board made such an order. In the meantime the city was without an electric car service, except such as is operated in some of the outlying districts, by the Toronto Civic Ry., the Toronto & York Radial Ry. and the Toronto Suburban Ry. Vehicles of all kinds were utilized in an endeavor to handle the traffic, the police commissioners fixing the maximum fare for an unlicensed jitney at 25c, but omitting to specify what distance was to be covered for that fare. The consequence was that in many cases, 50c and more was often paid for a ride, which the Toronto Ry. is compelled by its franchise to give for less than 4c.

The conciliation board held several meetings, but for some time, any usefulness it possessed, was, to say the least of it, obstructed by the interference of outside parties on questions of jurisdiction, first, it being claimed that it had too much jurisdiction, which the mayor desired curtailed; second, that it had too little jurisdiction, which the mayor desired should be increased, and third, that it had no jurisdiction at all, on account of a temporary change in the management.

On June 24, the company gave notice that it intended to attempt to carry out the Ontario Railway and Municipal Board's order to operate its cars, and requested that it be given adequate police protection for the purpose. This had been promised, but the company was advised not to proceed with the attempt, and on June 26, on the city's application, the Ontario Railway and Municipal Board issued the following order:—

"It having been made satisfactorily to appear to the board that the agreement between the City of Toronto and the Toronto Ry. Co. has been violated by the company by reason of its failure to operate its railway on June 23, 24 and 25, and that the railway is not being operated. And it appearing that the board's order, June 23, directing the company to commence forthwith to operate its railway, and to continue to operate an adequate service, has not been obeyed by the company;

"The board orders and directs that for the proper enforcement of such order the board do enter upon, seize and take possession of the railway of the said

company, and the real and personal property of the company, together with its books and offices, for the purpose of preventing the violation of the said agreement and disobedience to said order, and ensuring a car service pursuant to the terms of the said agreement; and for that purpose do assume and take over all powers, duties, rights and functions of the directors and officers of the said company so far as may be necessary for the foregoing purpose; and do supervise and direct the management of the said company and its railway in all respects, including the employment and dismissal of officers and servants of the company until such time as the board shall otherwise order. And in order to carry into effect the foregoing purposes, the board doth hereby appoint and employ Roland C. Harris, Commissioner of Works of the City of Toronto, to be the Manager of the said railway while it shall be and remain in the board's possession as aforesaid."

In an endeavor to settle the strike, R. C. Harris, acting for the Ontario Railway and Municipal Board, offered the men the rates per hour paid to the civic railway employes, as follows:

First 6 months, 40½c; second 6 months, 42¾c; second year, 45¼c; third and subsequent years, 48c. He also agreed that if the conciliation board recommended a higher rate, it would be paid. At a meeting of the men, this offer was rejected by a large majority.

On June 30, the conciliation board made an interim report recommending the following scale per hour: First 3 months, 50c; next 9 months, 52½c; thereafter, 55c, and also recommended that 8 hours constitute a day, with an extra half hour for the completion of run; time and a half after 8½ hrs.; time and a quarter for Sundays, and time and a half on holidays. It was also recommended that an investigation of the company's books be made, for the purpose of ascertaining the correctness of the company's claims, and if it be found that the operating revenue is insufficient to meet the situation the fare be raised to a straight 5c, except for children's tickets, the whole of the increase to be available to pay the increase in the men's wages, and not to be subject to any percentage payment to the city, which is to be based on the present average fare. At a mass meeting of the employes, July 2, the interim award of the board was accepted as regards the wage scale, and on July 3, the Ontario Railway and Municipal Board agreed to pay this, no further mention being made as to the straight 5c fare.

Following on the pressure that was being brought to bear on the authorities for an examination of the company's books to refute, or otherwise, the company's contention that it was not in a financial position to pay the men's demands, without some modification of the franchise terms as to fares or percentage payable to the city, what was termed a "sensational development" occurred, when it transpired that the company's books had been sent to Montreal. Immediately, on the Ontario Railway and Municipal Board's request, the books were returned to Toronto, for an audit under the board's order.

On July 8, D. M. McIntyre, K.C., chairman of the Ontario Railway and Municipal Board, issued the following state-

Ontario Hydro Electric Railways.

ment:—"R. J. Fleming, representing the directors of the company, elected by the shareholders, on the evening of July 4, advised the Ontario Railway and Municipal Board that the aforesaid directors were desirous of regaining control of the company's affairs and service, which the board agreed to restore upon the company agreeing to observe the terms of the interim award of the conciliation board, as to wages and hours and days of labor, with the further stipulation that such observance is to continue for the period ending June 16, 1920, and irrespective of the gross revenues of the company. The directors, under seal of the company, authorized Mr. Fleming to act in their behalf. This morning the requisite written undertaking, as approved by the board's counsel, I. F. Hellmuth, K.C., was deposited with the board, whereupon we relinquished possession of the company, having accomplished the resumption of the street railway service, the purpose for which we took possession of the railway."

The company announced July 22 that schedules were being prepared, so that an 8 hr. day might be made effective Aug. 1.

The conciliation board resumed its sittings, July 23, to deal with working conditions, etc.

Nova Scotia Tramways and Power Co. Issues \$1,000,000 Securities to Prove for Improvements.

The Nova Scotia Public Utilities Commission had before it on June 25 an application by the company to issue \$1,000,000 of 3-year gold coupon notes at 7%, being the first half of an issue of \$2,000,000 of such notes the issue of which had previously been authorized by the company's shareholders. It was reported to the commission that proceeds of the issue would be used to make improvements to the company's gas and power plants and its electric railway, the total estimated cost of the improvements, according to the schedule submitted being \$1,021,000. This amount it is proposed to spend as follows:—Power house, \$147,500; gas depot, \$79,000; track, \$452,000; electric distribution, \$122,000; car barns and cars, \$221,000. The commission granted the necessary approval July 11.

An issue of 3-year 7% coupon gold notes, due June 1, 1922, was offered to the public in July. The prospectus states that the notes are a direct obligation upon the company and rank senior to the \$2,077,800 of 6% preferred stock and \$2,510,000 of common stock, and that with the exception of first mortgage bonds, no mortgage bonds or debentures may be issued unless the coupon gold notes are secured in the same manner as such new issue. The company's gross earnings for 1918 are stated to have been \$998,702, and the earnings for the current year, on the basis of earnings ascertained to date, are estimated at \$1,325,000. The management of the company has been entrusted recently to Stone and Webster, Inc., of Boston, Mass.

British Columbia Electric Ry.—A London, Eng., cablegram states that the company has declared an interim dividend of 2½% for the half-year to be paid June 29. The payment of an interim dividend was omitted for June, 1918.

The Hydro Electric Power Commission of Ontario in its annual report for the year ended Oct. 31, 1918, gives the following information with regard to its work in connection with the promotion of the construction of electric railways under the provisions of the Hydro Electric Railways Act of 1914:—

As the 1916 amendment to the Railway Act forbade active construction of the proposed hydro electric railways during the continuance of the war, the staff was reduced to a minimum, but the general work of the department in compiling specifications and preparing standard designs, was carried on. The freight traffic data, collected by canvass in the more important cities, towns and villages of the province, was carefully gone over and classified and is now in a convenient form so that it may be used for future estimates. Some time has been spent in arranging the details of the preliminary estimates that were prepared on the Toronto Northeastern, Toronto-London and other lines. When these estimates were prepared, time was not available for presenting them in as complete detail as might be desired, but this work is now well in hand. During the past year all the agreements made by the commission and the various companies absorbed by the commission, in regard to wire crossings, underground crossings, and matters referable to the Board of Railway Commissioners and the Ontario Railway and Municipal Board have been placed under one complete filing system. All engineering matters pertaining to agreements, leases, etc., effected with the various railway companies operating under these boards are now handled through a branch of the commission's railway department.

Acting on a request from the City of London a number of estimates were prepared showing the effect of uniting the London & Lake Erie Ry. and Transportation Co.'s line, and the London & Port Stanley Ry.; also estimates of the probable operating revenue and expense of operating of portions of the Lake Erie line. Several meetings were held at London during the year but it was found impossible to recommend the purchase of any portion of this line, with a view to putting it in operation, as the receipts appeared to be too low to warrant such action. Negotiations having failed, it was found advisable by the owners of the line to dispose of the property as scrap, which is now being done.

Work in connection with estimates on a proposed line between Kilmount Jct. and Minden was proceeded with and when the estimates were completed, it was found that sufficient business could not be secured to allow of a favorable report being presented. The municipalities having been so informed, a deputation called at this office in Mar., 1918, and it was the opinion of those present that further traffic could be located. A committee was appointed to look into the matter but they were unable to secure any further traffic than that which had already been located by our men; however, on their request, an engineer visited the district in Sept., 1918, and an active canvas was commenced of the shippers in the district. The data so secured are being compiled but the outlook for a favorable report is not promising.

Sir Adam Beck, Chairman of the

Hydro Electric Power Commission of Ontario, is reported to have stated in Toronto, July 23, that he had that day been given authority by the commission to sign all the agreements with municipalities, under the Hydro Electric Railways Act of 1914, and amendments thereto. These acts not only authorized the building of electric railways within Ontario by the commission, but confirmed agreements with a large number of municipalities for the construction of electric railways, including one from Toronto easterly to Whitby, etc., with a number of branches; one from Toronto to Guelph, towards Sarnia, and a third from Toronto to Hamilton and the Niagara frontier. An act passed at the Ontario Legislature's last session authorized municipalities which had passed bylaws approving of the agreements, to enter into supplementary agreements under which they are to deposit debentures, pro rata, to cover the cost of the lines through municipalities where the bylaws were defeated. These supplementary agreements were on July 23, all reported to have been signed, notwithstanding a press report of July 17 that the mayor of St. Catharines had stated he would not sign.

The report of July 23, also credited Sir Adam Beck with stating that engineers were in the field revising surveys for the Toronto-Hamilton line, and that construction on it would probably be started in the autumn.

Edmonton Radial Railway Finances.

The City Comptroller of Edmonton, Alta., presented his annual review of the financial condition of the city's affairs to the city council recently. Referring to the Edmonton Radial Ry. he said:—"The accumulated deficit of the department is now \$363,102.38, and attention is again directed to the necessity of providing for it, especially in view of the interest charges, which are steadily increasing and creating an additional handicap on the successful operation of the utility.

"In spite of loss in revenue of approximately \$20,000, due to the influenza epidemic during Oct. and Nov., 1918, an increase in gross earnings is shown by this utility of \$19,407.60 over the previous year, and a somewhat exceptional coincidence is that the cost of operation and maintenance, which in every other department reflects a considerable advance, in the case of the street railway shows a reduction of \$554.98. This is mainly due to the adoption of one-man cars, as wages and materials have of course increased in this class of service here as well as elsewhere. The net result, however, shows a deficit of \$143,732.11, compared with \$163,731.94 for 1917.

"Comparative figures of mileage and passengers carried for 1917 and 1918 are as follows: Car mileage: 1917, 1,860,833 miles; 1918, 1,972,461. Passengers carried; 1917, 10,086,213; 1918, 9,909,529."

Nova Scotia Tramways and Power Co.—We have been officially advised that it is the new directors' intention as soon as they have had sufficient time to study the company's lines, to improve and build up the property both by making betterments and extensions.

Electric Railway Statistics for Year Ended June 30, 1918.

Following are extracts from the Railway Department's report on electric railway operations in Canada for the year ended June 30, 1918:—

Length of Lines, Miles.		
	1918-19	1916-17
1st main track.....	1,616.36	1,743.54
2nd main track.....	453.11	345.72
Sidings, etc.	206.57	188.70
Total	2,276.04	2,277.96

In connection with the figures given above, the Comptroller of Statistics says: "There was not an actual reduction of first track mileage in 1918. There was merely an accurate statement of second track mileage, following special correspondence with units which had been making incorrect returns, the immediate effect of which was to reduce first track mileage. The mileage of all tracks remained practically unchanged."

When the Railways Department's statistics for 1916-17 were issued, it was apparent that the mileage figures given for electric railways were incorrect. As an example, the Winnipeg Electric Railway was shown as having 110.20 miles of first main track, and no second main track. Canadian Railway and Marine World called the attention of the Comptroller of Statistics to this and to some similar errors in regard to other companies, in consequence of which he said he would issue a special circular to the companies so the figures for 1917-18 may be considered more reliable than those for previous years.

Capitalization.		
	1917-18	1916-17
Stocks	\$ 73,864,820	\$ 70,606,520
Funded debt	93,388,273	90,628,219
Total	\$167,253,093	\$161,234,793
Earnings, Operating Expenses, Etc.		
	1917-18	1916-17
Passenger earnings.....	\$21,943,644.04	\$27,621,582.36
Freight earnings	1,575,408.57	1,547,909.69
Other car earnings.....	268,422.82	596,803.64
Miscellaneous earnings	512,414.26	471,357.94
Gross earnings from operation	\$24,299,889.69	\$30,237,663.54
Maintenance of way and structures	\$ 1,684,561.97	\$ 1,209,900.62
Maintenance of equipment	2,204,875.57	1,646,611.02
Operation of power plant	3,083,383.47	3,012,809.71
Operation of cars.....	7,801,063.13	7,581,389.37
Total operating expenses	\$17,535,974.63	\$20,098,634.35
Net operating earnings	\$ 6,763,915.06	\$10,030,029.19
Miscellaneous income	2,311,176.60	2,292,200.76
Total corporate income	\$ 9,075,091.66	\$12,413,229.95
Taxes, interest, etc.....	6,150,074.21	7,552,368.55
Total net income.....	\$ 2,925,017.21	\$ 4,886,669.11
Appropriated to reserves	\$ 1,466,339.35	\$ 1,285,654.22
Appropriated to dividends	1,671,358.93	2,468,686.61
Deficit	\$ 212,680.83	
Surplus		\$ 1,124,520.57

Miscellaneous Statistics.		
	1917-18	1916-17
Ratio of operating expenses to gross earnings..	72.16%	66.46%
Fare passengers carried.....	487,365,456	629,441,997
Tons of freight hauled.....	2,497,530	2,335,539
Passenger car mileage.....	81,786,198	
Other car mileage.....	2,649,125	
Total car mileage.....	84,435,323	84,073,046
Equipment, all kinds	4,314	4,295
Employees, all grades	11,646	11,696
Salaries and wages	\$11,814,863.86	\$9,451,685.31
Accidents, all kinds—		
Killed	77	63
Injured	2,596	2,728

It will be noted that there are several

matters in connection with the above figures requiring explanation to account for their differences. The figures covering capitalization do not include \$493,346 cash aid given to electric railways by governments and municipalities. The fact that the Montreal Tramways Co. and two other units do not make reports to the department is explained as the reason for variations in other figures. For 1916-17 the earnings of the Montreal Tramways Co. were included, but not for 1917-18; while that company's operating expenses are included in the total operating expenses, but do not figure in the details. The amount required to meet appropriations for reserves and dividends exceeded the amount available for that purpose, from the 1917-18 earnings, by \$212,680.83, but was apparently not out of the undivided surplus of \$1,124,620.57 carried over from 1916-17.

Standard Safety Cars for Levis County Railway.

The Levis County Ry., Levis, Que., bought recently, in the U.S., 12 standard safety cars, specially fitted for the Canadian climate. Following are the principal dimensions:

Length over all	28 ft. 3/4 in.
Length over dashers	26 ft. 9 1/2 in.
Length over body corner posts	17 ft. 9 1/2 in.
Width over all	8 ft.
From floor to point of arch.....	6 ft. 6 in.
Aisle width	22 in.

The cars have straight sides, round ends, arched roof, top sash stationary, lower sash to raise, platform floor on same plane as body floor, folding doors and steps, 2-motor electrical equipment and air brakes with safety features. These cars are of the double end type and have 14 reversible cross seats of the waylo type. The seats will fold up towards the back to allow one passenger to pass the other. The total seating capacity of each car is thirty-two, and there are 7 windows on each side of the car, equipped with special rubber seat, winter sashes. All the windows are provided with pantasote curtains and guarded with five bar guards.

The cars are double lined throughout and have double floors, with roofing paper between, and are finished in cherry. They have Agasote inside lining below window sills. There is a 12 in. foot gong at each end of the car. Electric bells are installed, operated off the trolley circuit. Twelve consolidated truss plank electric heaters are installed. Eight exhaust ventilators are placed in the roof, and one 56-watt Ohio Brass Co. golden ray headlight is placed at each end of the car. There are also an Ohio Brass Co's. trolley retriever at each end of the car. One illuminated car sign is placed at each end of the car, over the right hand vestibule window.

Two sand boxes are provided, with Ohio Brass Co's. sanding valves. Fenders of the wheel guard type are provided at end of the car.

One 12 in. drop handle brake and shaft is installed at each end of the car. Westinghouse air brakes and equipment are installed, together with safety car automatic devices. Two 4 in. semaphore tail and marker lights are provided at each end of the car.

The trucks with friction bearings have a wheel base of 8 ft. Wheels 26 in diameter.

The electrical equipment consists of G.E. No. 258 two-motor equipment, with K-10 controller, and includes solid

pressed gears, together with all the necessary equipment.

The cars have been specially designed for operation in cold weather. The installation of the air equipment and the automatic devices are special for cold climates, the interior of the car being lined for warmth, and special storm sashes provided all around the car. It is claimed that the Levis County Ry. is the first to be properly and fully equipped with the new standard safety car in Canada.

Mainly About Electric Railway People.

Lieut.-Col. G. D. Fearman, Chief Accountant, Dominion Power & Transmission Co., Hamilton, Ont., has retired from the command of the 13th Royal Regiment.

James Gunn, Superintendent, Toronto Ry., died in Toronto, July 25, aged 80. He was born in Scotland and came to Canada in 1867 and entered Toronto St. Ry. service in 1869 as Secretary and occasionally took his turn as a conductor on the old horse cars. He continued in the service of the railway during the various changes in ownership, and when it was taken over from the city, was appointed General Manager, and when the present company acquired the property was appointed Superintendent, and early this year he completed his 50th year of street railway service. He was for some time a director of the company as well as Superintendent.

Geo. Kidd, General Manager, British Columbia Electric Ry., was expected to return to Vancouver about the end of July from England, where he has been for some time on the company's business.

W. H. Moore, General Manager, Toronto & York Radial Ry., who wrote "The Clash," a book dealing with racial strife in Canada, has been given the degree of doctor in letters, by Laval University, Quebec.

Sir Augustus Nanton, President, Winnipeg Electric Ry., has been elected a vice president of the Dominion Bank.

J. I. Newell, Electrical Superintendent, British Columbia Electric Ry., Vancouver, B.C., has taken over the Hydro Electric Engineer's duties, F. S. Easton, who occupied that position, having resigned to enter the Mexican Light & Power Co.'s service.

R. M. Reade, Superintendent, Quebec Ry., Light & Power Co., who is a member of the Quebec Board of Trade's Industrial Committee, is taking a very active interest in securing new industries for the city.

David A. Starr, M.I.E.E., General Manager, Clyde Valley Electrical Power Co., Glasgow, Scotland, who died recently, was born at Halifax, N.S., April 11, 1858. Last December he left Glasgow, on extended leave of absence, to recuperate after an attack of pneumonia, going via New York to Florida, Cuba and Jamaica, thence to New York again, and after visiting Toronto, Ottawa, Montreal, and Halifax, he sailed towards the end of April for Glasgow to resume his duties.

Nova Scotia Tramways and Power Co.—We are officially advised that although there has been a change in the directorate, there has been practically no change in the stock ownership.

The Hydro Electric Power Commission of Ontario's Construction Railway at Niagara Falls

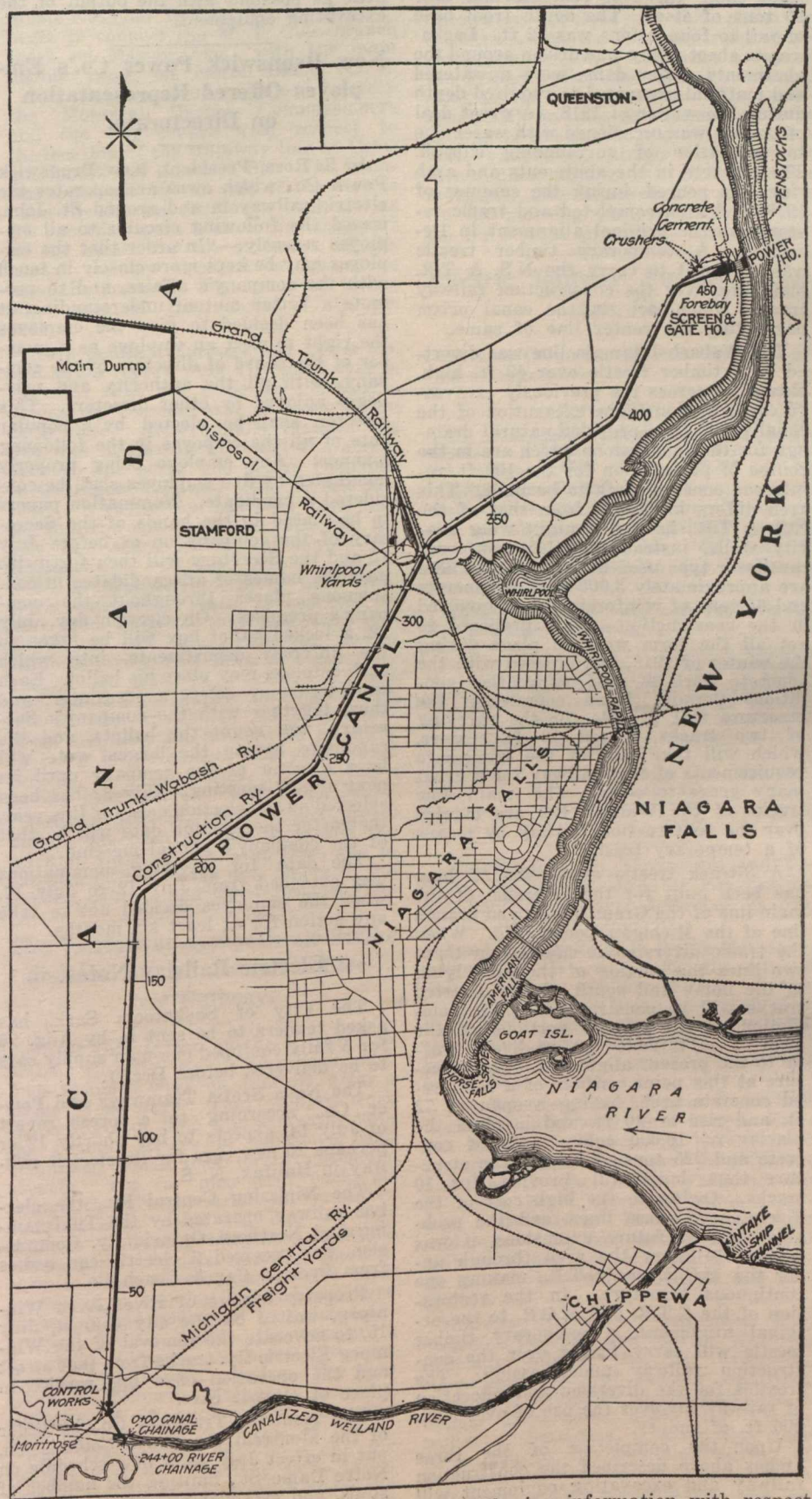
In order to provide additional power the Hydro-Electric Power Commission of Ontario, decided to undertake the construction of the Queenston-Chippawa power canal. After three years of exhaustive surveys and investigation, the route was finally fixed in 1917. It is about 12.75 miles long with the intake on the Niagara River at Hog Island, Chippawa, above Niagara Falls, and the tail race on the Niagara River about a mile above Queenston. A full description, with plan showing route of canal and of the construction railway, etc., appeared in Canadian Railway and Marine World for Dec., 1918. The report of the commission for the year ended Oct. 31, 1918, issued recently gives some additional details as to the work to be done, and what has been accomplished.

For the purposes of construction, a double track railway is being built for the full length of the canal from Montrose, near where the canal leaves the Welland River, to the forebay at the power house, 8.50 miles, and a 2.50 mile spur connects the main line with the 200 acre area bought at St. Davids as a dumping ground for the disposal of excavated earth and rock. Various other branches of the railway will be built from time to time as needed. One railway will probably be built from the power house to connect with the Michigan Central Rd. at Queenston to bring in the machinery and to take out the material excavated from the power house substructure. Preliminary work was done during the year in the location of this piece of line.

During the year, under review, 11 miles of double track construction railway were electrified along with the yards and sidings. A special form of overhead trolley support was designed by the commission's line construction department so as to locate the trolley wire 7 ft. to one side of the center line of track, thus leaving a clear overhead above the running rails to enable the locomotive cranes and other similar equipment to operate up and down the tracks without fouling the trolley wire. The trolley wires are carried in clamps, which, with the hangers suspending them from the poles, are all made up of standard material, and are so arranged that the temporary use of the material does not injure it. Framed timber trestles are set alongside the dump and other temporary track to carry the trolley wire. These trestles are mounted on wheels or skids and can be moved readily by a locomotive crane, when it is necessary to shift the track. The construction department reports that this system is working satisfactorily.

The rolling stock in use on the line consists of 150 20-yard western air dump cars of 80,000 lb. capacity each; 7 40-ton steam locomotives, and 12 50-ton electric locomotives. The steam locomotives are switchers bought in the United States. The electric locomotives were built by the National Steel Car Co., Hamilton, Ont., 6 of them having the General Electric Co.'s equipment, and 6 the Westinghouse Co.'s equipment. There are also 3 40-ton and 2 15-ton locomotive cranes for general utility work.

In connection with the canal excavation work four bridges have to be built to carry railways under or over the



canal—one for the Niagara, St. Catharines and Toronto Ry., one for the Wabash Rd., one for the Michigan Central Rd., and one for the Grand Trunk Ry., and the Michigan Central Rd. These

The following information with respect to the construction of them is given in the report:—

The undercrossing of the N.S. & T.R. involved the diversion of the existing single track to one side of the bridge

site and the construction of a double track reinforced concrete arch with 86 ft. span, having a rise of 25 ft. This arch was designed for Coopers' E-60 loading, and contained approximately 3,500 cubic yards of concrete and over 90 tons of steel. The depth from base of rail to foundations was 52 ft. Lackawanna sheet piling was driven around the abutments, coffer dams were unwatered and material excavated to required depth during the winter of 1918. A great deal of trouble was occasioned with water due to saturation of surrounding subsoil. The concrete in the abutments and arch ring was poured during the summer of 1918, and arch completed and traffic restored to the original alignment in December. A temporary timber trestle was designed to carry the N.S. & T.R. main line over the construction railway tracks, which are in the canal prism paralleling the center line of same.

The Wabash Rd. main line was diverted on a timber trestle over 40 ft. high, extending across the previously excavated canal section. The excavation of the canal prism thus provided natural drainage for the foundations which are in the course of preparation for the 100 ft. reinforced concrete arch to be built. This arch differs in design from that of the N.S. & T.R., having straight wing gravity walls, instead of the reinforced cantilever type used in that arch. There are approximately 3,000 yds. of concrete and 65 tons of reinforcing steel involved in the construction. It is proposed to get all the form work in place during the winter of 1918, and proceed with the concrete work as soon as weather conditions permit. Upon completion the structure will provide for the carrying of two tracks, spaced 13 ft. centers, which will take care of the immediate requirements of that railway for a great many years to come. The main line tracks of the Wabash Rd. are carried over the construction railway by means of a temporary trestle.

A 3-track trestle about 400 ft. long has been built for the diversion of the main line of the Grand Trunk and branch line of the Michigan Central Rd. When the traffic diversion is effected on these two lines the portion of the arch lying to the north and south of the diverted tracks will be constructed. Upon completion of the outside portions of the arch it is intended to re-divert traffic to the present alignment. The structure at this point consists of a reinforced concrete arch, having a span of 72 ft. and rise of 20 ft. and involves the placing of 10,000 cubic yards of concrete and 325 tons of steel. The structure thus built will provide for 10 tracks. Owing to the high cost of the diversion of these lines, and the probable need of future extensions, it was decided to carry the arch through under the M.C.R. and G.T.R., making one continuous structure. In the restoration of the G.T.R. and M.C.R. to the original alignment, a temporary timber trestle will carry tracks over the construction railway undercrossing. The trestles for the diversion and relocation of railway involves the use of over 300,000 ft. of timber.

Upon the completion of the three arches above described the construction railway and excavating equipment will be free to move, and the innumerable delays already occasioned will be entirely removed. This will facilitate matters very generally in the pursuit of disposal tracks from a junction with

the main line construction railway between the Wabash Rd. and M.C.R. and G.T.R. It is thus important that these structures be completed at the earliest possible moment, so as to interfere as little as possible with the output of the excavating equipment.

New Brunswick Power Co.'s Employees Offered Representation on Directorate.

L. R. Ross, President, New Brunswick Power Co., which owns and operates the electric railway in and around St. John, issued the following circular to all employees recently:—"In order that the employees may be kept more closely in touch with the company's affairs, and to promote a better mutual understanding, it has been decided to give the employees the right to elect an employee as a member of the board of directors of the company, with all the authority and privileges enjoyed by other directors. This director shall be elected by a popular vote of all the employees in the following manner: Any employee being properly nominated by five employees shall be considered a candidate. Nomination papers to be placed in the hands of the Secretary of the company on or before July 12 and the Secretary will then forthwith post the names of all candidates in conspicuous places throughout the company's premises. On election day, July 22, a locked ballot box will be taken to the different departments, into which each employee may place his ballot. Each candidate may select a scrutineer, and they, together with the company's Secretary, will count the ballots, and the candidate having the largest vote will be a director of the company until its next annual meeting. July 22 has been selected as the election date for this year, thereafter the election date will be that of the company's annual meeting."

The date for receiving nominations was extended from July 12 to July 17, when the employees decided not to take any action for at least six months.

Electric Railway Notes.

The City of Saskatoon, Sask., has asked tenders to be sent in by Aug. 20 for 5 fully equipped one-man supply cars to be delivered before Dec. 1.

The Nova Scotia Tramways and Power Co., according to a press report of July 14, expects to buy shortly 12 or perhaps 20 new cars for its electric railway in Halifax, N. S.

The Nipissing Central Ry., the electric railway operated by the Timiskaming and Northern Ontario Ry. Commission, has received 2 electric car bodies from Preston Car & Coach Co.

Property owners of River Ave., Winnipeg, waited on the city council, July 15, to advocate the removal of the Winnipeg Electric Ry. tracks from that street and the operation of a bus service in place of electric cars.

The Montreal Tramway Co., by order of the Montreal Tramways Commission, put in effect July 28, a new schedule on Notre Dame St., limiting the number of stops, and establishing definite transfer points, with a view to giving a more rapid service.

The Edmonton, Alta., Radial Ry. is reported to have under consideration the adoption of a plan for marking the street

cars, so that the route and destination of an approaching car can be readily distinguished. Each route will have a different shaped and colored sign, placed over the route board.

The expected report on the electric railway situation in Hamilton, Ont., has not yet been presented to the city council, and Alderman Aitchison, chairman of the Street Railway Committee is reported to have said, July 10, that the matter had been sidetracked for the time being, but that something would be doing very soon.

The Levis County Ry. laid a complaint before the Quebec Public Utilities Commission, against the South Shore Turnpike Trust for failure to clear the public road of snow, whereby the company was inconvenienced in the operation of its electric railway. The company, at a hearing before the commission recently, made an offer of \$1,000 a year towards the cost of the work, on the section of road on which its car line was placed. Judgment was reserved.

Hamilton, Ont., west end residents are agitating for a more efficient service on the portion of the Hamilton and Dundas Electric Ry. within the city. The bylaw passed in 1897, provides for the running of cars as the public convenience may require under such directions as the city council may from time to time prescribe. It is claimed that traffic has increased fivefold, and that the hourly service that has been given since 1897, is not sufficient.

Ontario Liberals' Policy Respecting Public Utilities.

Among the resolutions passed by the Ontario Liberals, at their recent convention in Toronto, were two pledging the party to the following measures:—"The construction of a system of hydro-radial railways throughout the province wherever conditions warrant expectation of successful operation. In the construction of these railways there should be co-operation with the directors of the Canadian National Rys. so that duplication of service shall be avoided and the Dominion and provincial authorities may work together for the development of province-wide systems of transportation.

"Refusal to confer franchises hereafter upon private corporations for railways, power, lighting, heating, telephone or other services requiring for their successful operation the use of the highways, or which come into competition with similar services owned and operated by public authorities."

Electric Railway Situation at Niagara Falls—A committee is reported to have been appointed by the Niagara Falls Chamber of Commerce to investigate the electric railway problem in that town. The ratepayers in January voted in favor of taking over the Niagara Falls, Wesley Park and Clifton Tramway, 456 miles, a part of the Niagara-St. Catharines and Tralo Ry. on the expiration of the franchises in Mar. and April, 1920. The N. St. C. and T. Ry. is owned by the Canadian Northern Ry., which now forms part of the Canadian National Railways, owned by the Dominion Government, and since the vote in January, a feeling has developed in favor of government rather than municipal operation of the line.

Electric Railway Projects, Construction, Betterments, Etc.

Calgary Municipal Ry.—A press report states that work will shortly be started on a new line, which will run up Center St., over the bridge, and as far as 16th Ave. North, at Calgary, Alta. The new line will be about 0.75 of a mile long, and will consist of a single track. The same report states that an extension will be made on the Killarney line for a short distance on 29th Ave. We had already been advised of the proposal to rebuild the first mentioned line, and that the necessary material for its construction was on hand. (July, pg. 392).

We were officially advised July 18, that in addition to the one wide extension on the Carter St. worth line, the city council had in contemplation the construction of a half-wide extension of another line. (July, pg., 392).

Cape Breton Electric Co.—A deputation from New Waterford, N.S., waited on A. S. Pratt, President, Cape Breton Electric Co., in Sydney, N.S., recently to discuss a proposal to extend the company's line to New Watford. Mr. Pratt is reported to have informed the deputation that the extension would not earn the operating cost and the interest on the cost, which would be about double what it would have been when the proposal was last considered in 1913. At present money could not be obtained to build such an extension, therefore the company could not undertake it. If the people of New Waterford were prepared to build the line the company would cooperate with them in every way. (June, pg. 324).

Fort William Electric Ry.—We are officially advised that the finishing up work is about to be undertaken on a mile of track laid on Frederick St., Fort William, Ont., in 1914. The line is yet to be ballasted, for which purpose 2,000 cubic yds. of gravel are required. A. F. Farquharson, Fort William, Ont., is Manager. (July, 1918, pg. 308).

Montreal Tramways Co.—In connection with the projected construction of a new line on Park Ave., the Montreal Tramways Co. has applied to the Board of Railway Commissioners for leave to cross their track with a double track line between Atlantic and Beaumont Aves., Montreal.

G. A. Mountain, the board's chief engineer, reported recently that after the application had been heard by the board, he visited the site of the proposed crossing in company with engineers representing the M. T. A., the C. P. R., and the city, and as a result of the inspection he came to the conclusion that the crossing was one that he could not recommend. He thought that the third track, which was an industrial spur, could be moved to the west of Park Ave., and would leave a 2-track subway proposition. A 60-ft. subway could be built at a cost of approximately \$200,000, exclusive of land damages. The highway is junior to the railway, and was opened across the railway on an order by the board. The two tracks are not used to any particular extent for passenger purposes, but as an outlet to the outmout yard.

The Board of Railway Commissioners is also being asked for leave to carry the M. T. Co's. tracks across the Can-

adian National Ry., on Mariev Ave., in order to connect the M. T. Co's. branch track on Mariev Ave. with the main double track on Notre Dame St. E.

Negotiations are reported between the Montreal Harbor Commissioners and the city council with respect to the location of the tramway line on Commissioners and Common Sts. The tramway lines are on the side of the streets named beside the revetment wall, and as the commissioners wish to use this part of the street for an extension of the harbor railway lines, it is desired to have the tramway lines removed to the other side of the street. (July, pg. 392).

Nova Scotia Tramways and Power Co.—A press report, July 11, states that is expected that the projected extension across the common will be made at an early date. As originally planned the line was to run up Cogswell St., across between the north and centre commons to Queenpool Rd., and join the belt line there. A suggestion has been made that the line run out Cunard St. and join the belt line there instead of across the common.

W. L. Webster, of Stone and Webster's emergency staff, is reported to have said, July 14, that men were employed on the line, removing faulty roadbed, laying new rails, and generally putting the track in order. It was also planned to change all single track intersections to double track intersections, and that the amount to be spent on track improvements this year would depend, to some extent, on the city's paving programme. (July, pg., 392).

Oshawa Ry.—A press report states that it has been decided to extend the track on Duke St., Oshawa, Ont., and to put in a switch to the new plants of the General Motors and Steel Products Co.

The Vancouver Sympathetic Strike and the British Columbia Electric Railway.

Street railwaymen on the British Columbia Electric Ry's. Vancouver city lines resumed work on June 30, after a strike of 25 days. They stopped work on the night of June 4, in sympathy with the general strikes in Vancouver and Winnipeg, which took on revolutionary aspects. The car men went back, although the general strike in Vancouver had not been called off, but was collapsing. Following telegrams from the international officials, ordering the men back to work in accordance with their agreement, a meeting was held on June 25, which was addressed by union leaders and W. G. Murrin, the company's Assistant General Manager. It was then decided to take a ballot. The vote taken the following Saturday showed a majority of 45 in favor of resuming work out of a total vote cast of 750.

New Westminster city lines and the Central Park and Burnaby Lake interurban lines, all of which come under the New Westminster local, were not in operation from June 18 to June 23 at 4 p.m. The New Westminster Trades and Labor Council declared a general strike, on the arrest of the strike leaders in Winnipeg, and although the street and

interurban railway men voted 70 per cent. to stay at work, they were forced out. On June 23, however, of their own volition, they decided to go back to work. Station agents and dispatchers on the Fraser Valley and Lulu Island lines were involved in this phase of the strike, and the company reduced its passenger service by one train a day on the Fraser Valley line, and discontinued most of its freight service. The trainmen on these lines are members of the railway brotherhoods, and did not strike.

In Vancouver, jitneys charging 10c fares, plied during the strike. After midnight, they charged 20c and more. On the morning the street cars resumed, the jitneys practically disappeared.

Electric Railway Finance, Meetings, Etc.

British Columbia Electric Ry. and allied companies—

	May, 1919	May, 1918	11 mons. to May 31, 1919	11 mons. to May 31, 1918
Gross	\$628,847	\$486,876	\$6,650,954	\$5,497,564
Expenses	478,908	394,538	4,922,911	4,242,672
Net	154,939	92,338	1,728,043	1,254,892

Edmonton Radial Ry.—A press report states that the deficit on the operation of the municipal railway for the five months ended May 31, was to \$39,425 against \$44,914 for the same period of 1918.

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

	May, 1919	May, 1918	5 mons. to May 31, 1919	5 mons. to May 31, 1918
Gross	\$1,032,717	\$1,090,747	\$5,290,599	\$5,320,237
Expenses	624,113	587,331	3,100,256	2,873,259
Net	408,604	503,416	2,190,343	2,446,978

Winnipeg Electric Ry. and allied companies—

	May, 1919	May, 1918
Gross	\$248,191	\$280,935
Expenses	198,092	212,343
Net	50,099	68,592

The Niagara, St. Catharines and Toronto Ry. freight sheds at Niagara-on-the-Lake, Ont., were destroyed by fire, due to lightning, July 10.

London & Lake Erie Ry. & Transportation Co.—We were officially advised July 14 that the dismantling of this company's line was being proceeded with, the principal work then going on being the taking down of the wire and overhead work, which it is expected to sell in the near future.

The Winnipeg River Power Co., which is closely allied with the Winnipeg Electric Ry. Co., is reported to have started the construction of a power development plant at Lac du Bounet Falls, on the Winnipeg River, about 75 miles northwest of Winnipeg. The plant will, it is said, when fully completed, consist of 6 units of 28,000 h.p. each, and is estimated to cost between \$6,000,000 and \$7,000,000.

Railway Statistics, Collection, Etc. Canadian Railway and Marine World is officially advised that the collection, compilation, etc., of railway statistics, heretofore carried on in the Railways & Canals Department under the Comptroller of Statistics, is after this year to be done by the Dominion Bureau of Statistics, transportation division, which will work in close co-operation with the Board of Railway Commissioners, and that it is the intention to transfer the Department of Railways and Canals' statistical staff to the Dominion Bureau of Statistics, in due course.

Marine Department

Canadian Government Merchant Marine, Ltd., Shipbuilding, Operation, Etc.

Additional Steamship Construction—

In speaking in the House of Commons on May 8, in committee of supply, on an item of \$30,000,000 for the construction of ships in accordance with the Dominion Government's shipbuilding programme, the Minister of Marine said: "The value of the contracts which have been placed is, in round figures, about \$52,000,000 and up to the end of the present fiscal year \$20,000,000 of that will have been paid. The item that we are asking the committee to pass is for \$30,000,000, which with the \$20,000,000, constitutes, in round figures, the total amount of all the contracts, \$52,691,450."

Further on in his speech the Minister said:—The \$30,000,000 I am dealing with now is to complete the contracts we have already let, but in view of the fact that there is a great demand for ships and also that we could sell some of our ships under contract at present, if the government deemed it wise to do so, we are not going to discontinue shipbuilding for the moment. We realize that there are 30,000 men engaged in the shipyards throughout Canada, from Prince Rupert to Halifax, and there are fully 10,000 more engaged in making engines, boilers, etc., and to cause 40,000 men to be out of employment at this time would be rather a dangerous thing. It is therefore not the government's intention to cease its shipbuilding programme now. We are going to order additional ships, at least to keep the yards that are requiring work busy throughout the balance of 1919, and probably for a few months in 1920. I do not want this house or the shipbuilders to think that the government can go on forever ordering ships, because there must be a limit to the number of ships that the government can use, and we are getting very near to that point. So that when I say that it is the government's intention, subject to parliament's approval, to order more ships, the shipbuilders must not expect that there will be many more orders to follow, and they must therefore look for orders for their shipyards in the same way as any other industry in the country would."

The item of \$30,000,000 was passed by the House of Commons May 8, and a further sum of \$10,000,000 was passed in the supplementary estimates for the year ending Mar. 31, 1920, making, with the \$20,000,000, provided previously, a total of \$60,000,000.

Canadian Railway and Marine World was officially advised July 15 that in pursuance of the policy as outlined by the Minister, he had decided to give contracts to the Collingwood Shipbuilding Co., Collingwood, Ont., for 2 more steel cargo steamships of 3,750 long tons d.w. capacity each, which will be duplicates of the 4 ordered previously from that company, to be built at its Collingwood yard, and of the one to be built at its Kingston yard. The price for the two additional steamships is to be \$180 a long ton d.w., against \$205 for those ordered previously. They are to be ready by the opening of navigation next spring. Up to July 15 no other additional orders had been placed, but it is expected that some will be in the near future.

Delivery of Steamships—The steel cargo steamships which are being built for the Marine Department, and which have been completed so far, were delivered to Canadian Government Merchant Marine Ltd., for operation, as follows:

Feb. 22, s.s. Canadian Voyageur, 4,575 tons, d.w.; Canadian Vickers Ltd., Montreal.

April 26, s.s. Canadian Warrior, 3,995 tons, d.w.; Collingwood Shipbuilding Co., Collingwood, Ont.

May 9, s.s. Canadian Pioneer, 8,408 tons, d.w.; Canadian Vickers Ltd., Montreal.

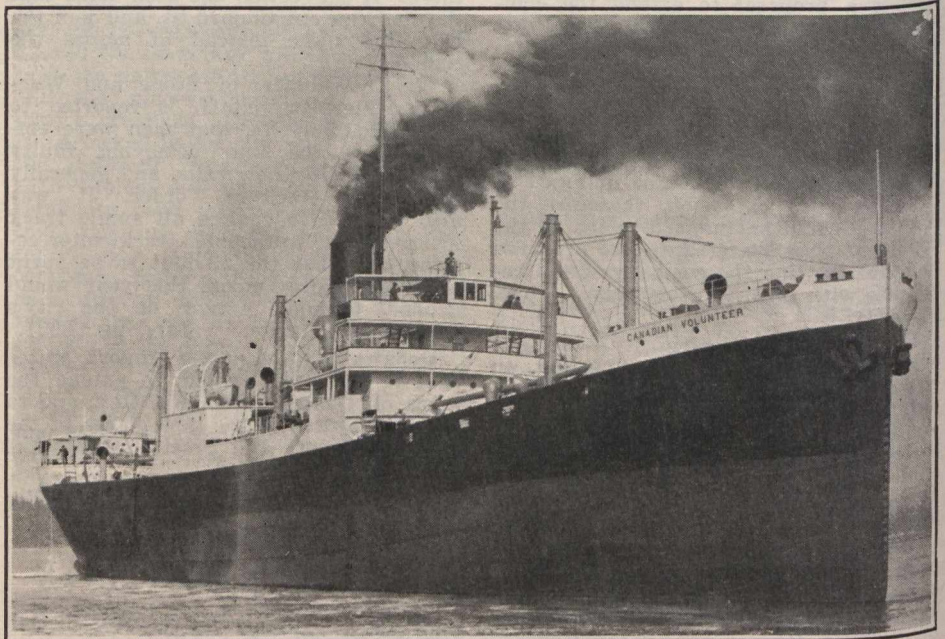
May 23, s.s. Canadian Ranger, 8,382 tons, d.w.; Canadian Vickers Ltd., Montreal.

June 7, s.s. Canadian Recruit, 3,964 tons d.w.; Collingwood Shipbuilding Co., Collingwood, Ont.

build one cargo vessel, having a total deadweight capacity, as specified, of approximately 3,750 tons, and it is agreed that should the total deadweight vary above or below 3,750 tons, on the British Corporation summer load line for salt water, the price of the ship to be modified accordingly, so that the total price shall be \$205 per ton deadweight."

As the various ships are completed, and their deadweight capacity determined, and advices of same are received by Canadian Railway and Marine World, the approximate figures given in our monthly table are changed, and the final ones inserted. The following table shows the variations between the approximate deadweight figures for six of the vessels and the finally determined figures:

	Approximate	Determined
Canadian Pioneer	8,100	8,408
Canadian Ranger	8,100	8,382
Canadian Recruit	3,750	3,964
Canadian Volunteer	4,300	4,530
Canadian Voyageur	4,300	4,575
Canadian Warrior	3,750	3,995



Steel cargo steamship, Canadian Volunteer, approximately 4,300 tons d.w., built for Canadian Government Merchant Marine Ltd., by Wallace Shipyards Ltd., North Vancouver, B.C.

June 19, s.s. Canadian Volunteer, 4,530 tons, d.w.; Wallace Shipyards Ltd., North Vancouver, B.C.

July 16, s.s. Canadian Trader, approximately 3,400 tons, d.w.; Port Arthur Shipbuilding Co., Port Arthur, Ont.

Dead Weights of Vessels—In the table "Orders for steel cargo steamships for Canadian Government Merchant Marine Ltd.," which has appeared in each issue of Canadian Railway and Marine World for several months past and, which has been brought up to date and is repeated on page 454 of this issue, the deadweight tonnage of the ships is given, with other information. Except when preceded by an asterisk, these figures are approximate only, and are subject to revision after the completion of the respective ships. The contracts between the Marine Department and the various shipbuilders contain a clause similar to the following, which is in the contract with the Collingwood Shipbuilding Co. for the s.s. Canadian Warrior.

"It is understood that it is contemplated to

These changes in tonnage, of course, caused a corresponding change in price. For example, the approximate price of the Canadian Warrior, as first stated, was \$768,750, while the price actually paid was \$818,975, an increase of \$50,225.

Officers of Steamships—Following is a list of captains and chief engineers of steamships so far appointed by Canadian Government Merchant Marine Ltd., the first column containing the name of the vessel, the second that of the captain and the third that of the chief engineer:

Canadian Pioneer	T. R. Coffin	P. C. Bennett
Canadian Ranger	A. S. M. Nicholls	R. J. Webster
Canadian Recruit	J. D. MacKenzie	J. W. Ayers
Canadian Seigneur	F. Ferguson	J. Gladstone
Canadian Trader	D. Campbell
Canadian Volunteer	A. O. Cooper	John Young
Canadian Voyageur	A. L. Starrett	J. T. Meredith
Canadian Warrior	E. C. Sears	L. Marshall

Voyages of Steamships—Following are particulars of voyages made by Canadian Government Merchant Marine Ltd., steamships, after they were transferred to that company for operation:—

Canadian Voyager, voyage one, sailed from Halifax, N.S., Mar. 2, with miscellaneous cargo, for Barbadoes, Trinidad and Demerara, and returning, carried a cargo of sugar to New York, arriving there Apr. 4. Voyage two, sailed from New York, Apr. 17, with miscellaneous cargo for St. Kitts, Antigua, Guadeloupe, Martinique and Barbadoes, returning carried a cargo of sugar to Montreal, arriving there June 5. Voyage three, sailed from Montreal July 10, for Barbadoes, Trinidad and Demerara, with miscellaneous cargo of hay, oil, meals, oats, cement, bran, flour, lumber and fish, etc., and Canadian Warrior, sailed from Montreal, May 20, with miscellaneous cargo of flour, oats, bran, cement, lumber, hay, etc., arriving at Barbadoes, June 1, at Trinidad, June 4 and Havana, June 14. Left Havana June 24 with cargo of sugar, arriving in Montreal July 8.

S.S. Canadian Pioneer, sailed from Montreal, May 22, for Buenos Ayres, with general cargo of newsprint paper, agricultural machinery, malt, automobiles, window glass, etc., arriving at Buenos Ayres, June 21.

S.S. Canadian Ranger, sailed from Montreal May 30, with general cargo of sugar, meats, canned goods and lumber, arriving at Liverpool, Eng., June 13.

S.S. Canadian Recruit, sailed from Montreal, June 20, with general cargo of flour, cement, oats, lumber, bran, etc., arriving at Kingston, Jamaica, July 1, and Havana, Cuba, July 7, bringing back a full cargo of raw sugar from Cuba.

S.S. Canadian Volunteer, sailed from Victoria, B.C., July 11, with a cargo of lumber for the United Kingdom, via the Panama Canal.

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 Sealer; Marine Department contract 40; builder's yard no. 5; Nova Scotia Steel & Coal Co., New Glasgow, N.S.; approximately 2,800 tons d.w.

Canadian Miner; Marine Department contract 40; builder's yard no. 6; Nova Scotia Steel & Coal Co., New Glasgow, N.S.; approximately 2,800 tons d.w.

Canadian Otter; Marine Department contract 44; builder's yard no. 4; British American Shipbuilding Co., Welland, Ont.; approximately 4,350 tons d.w.

Canadian Squatter; Marine Department contract 45; builder's yard no. 5; British American Shipbuilding Co., Welland, Ont.; approximately 4,350 tons d.w.

It is possible that some of the names chosen previously for other vessels of the fleet will be changed, and that names ending with "er" will be substituted, so as to have the names of all the vessels in the fleet end in that way.

Directors of Canadian Government Merchant Marine Ltd.—As stated in Canadian Railway and Marine World for May, Canadian Government Merchant Marine Ltd., which is operating the steel cargo steamships build for the Marine Department, had then five directors, all of whom are directors of the Canadian National Rys., viz: D. B. Hanna, President; A. J. Mitchell, Vice President and Treasurer; Major Graham A. Bell, C.M.G., Deputy Minister of Railways; Robert Hobson, Hamilton, Ont., and E. R. Wood, Toronto. On July 10, four more of the Canadian National Rys. directors

were also elected directors of Canadian Government Merchant Marine Ltd., viz: Sir Hormisdas Laporte and F. P. Jones, Montreal; Thos. Cantley, New Glasgow, N.S., and A. P. Barnhill, St. John, N.B.

The s.s. Canadian Volunteer, the first of the Canadian Government Merchant Marine vessels to be built in British Columbia took on a cargo of lumber at Victoria, B.C., for Great Britain early in July. The loading was considerably hindered, owing to a longshoremen's strike. The Canadian Volunteer was built by Wallace Shipyards, Ltd., North Vancouver, and is of the single deck, poop, bridge and forecandle type, 4,300 tons d.w. The keel was laid Oct. 1, 1918 and she was launched Apr. 5.

The Minister of Marine stated in the House of Commons recently, in answer to a question, that the s.s. Canadian Volunteer, has a gross tonnage of 3,188. The department had no information as to the port for which she was to sail, what cargo she carried, or what rate was paid for freight.

The s.s. Canadian Warrior—The Minister of Railways, in answering a question in the House of Commons recently as to the rate of freight per ton received on 2,000 tons of general cargo and 76,000 ft. of lumber carried from Montreal to Barbados and Trinidad by the s.s. Canadian Warrior, said:—"The Canadian Warrior is operated by the Canadian Government Merchant Marine Ltd., who advise that it is not in the company's interest that rates of freight paid by private shippers should be made public. They advise full information covering the company's operations will be submitted to the shareholders, who are the government, at the close of the company's fiscal year."

British American Shipbuilding Co., Welland, Ont., which is building 2 steel cargo steamships, each approximately 4,350 tons d.w., for Canadian Government Merchant Marine Ltd., and, which laid the keel of one, its builder's yard no. 4, on Mar. 29, laid the keel of the second one, builder's yard no. 5, July 14. These ships will be named Canadian Otter, and Canadian Squatter, respectively. They will have approximate d.w. capacity of 4,350 tons each, and will be of the single deck, poop, bridge and forecandle type, of the following dimensions, length overall, 333 ft. 7 in.; length, b.p., 320 ft.; breadth moulded, 43 ft. 10 in.; depth moulded, 25 ft. They will be equipped with triple expansion engines, with cylinders 23 x 38 x 63 in. diam. and 42 in. stroke, and supplied with steam by 2 Scotch boilers, each 15½ x 11½ ft. at 180 lb.

J. Coughlan & Sons, Vancouver, B.C., advised us July 14 that, while work was going on at their yard, conditions had not returned to normal. There had been a decided split in the labor ranks and while some of the trades were will to return to work others were not, and as a consequence only about half of the firm's normal force was working. They expected to lay the keel of the s.s. Canadian Inventor, Marine Department contract 36; builder's yard no. 13, approximately 8,100 tons d.w., about July 25. This would leave one more keel to be laid under the Marine Department's order, viz: the s.s. Canadian Prospector, Marine Department's contract 37; builder's yard no. 14, also approximately 8,100 tons d.w. No dates had been set for the launching of the s.s. Canadian Importer and the s.s. Canadian Exporter, both also approximately 8,100

tons d.w., the keels for which were laid Apr. 26 and May 3, respectively.

Halifax Shipyards Ltd., Halifax, N.S.—We were advised July 10 that the construction of all the company's buildings was held up for six weeks in May and

Details of the Different Types of Steamships for Canadian Government Merchant Marine Ltd.

The following are comparative details of the six different types of steamship 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. 1 in.	445 ft.
Length, bet. perpendiculars.....	270 ft.	251 ft.	251 ft.	320 ft.	331 ft.	400 ft.	430 ft.
Breadth, moulded.....	38 ft.	43½ ft.	43½ ft.	44 ft.	46½ ft.	52 ft.	56 ft.
Depth.....	20½ ft.	23 ft.	26 ft.	25 ft.	25½ ft.	31 ft.	38 ft.
Draft, loaded.....	17¼ ft.	20 ft.	22 ft. 2 in.	21 ft. 2 ins.	21 ft. 8 ins.	25 ft. 1 in.	29 ft.
Type.....	S.d., p.b. & f.c.'s'le	S.d., p.b. & f.c.'s'le	Lake, 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
Engines—Type.....	Triple expansion	Triple expansion	Triple expansion	Triple expansion	Triple expansion	Triple expansion	Triple expansion
Cylinders, diam.....	17½ x 28¾ 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.
Stroke.....	33 ins.	40 ins.	36 ins.	45 ins.	45 ins.	48 ins.	54 ins.
Ind. h.p.....	875	1,900	1,200	1,800	2,500	3,000	4
Boilers—Type.....	Single ended	Single ended	Single ended	Single ended	Single ended	Single ended.	Single ended
No.....	2	2	2	2	3	3	4
Diam. and length.....	12½ x 10¾ ft.	15 x 11 ft.	14 x 10¾ ft.	15½ x 11½ ft.	14 x 11½ ft.	15½ x 11½ ft.	15½ x 11¾ 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	9
Grates surface.....	80 sq. ft.	135 sq. ft.	100 sq. ft.	132 sq. ft.	156 sq. ft.	198 sq. ft.	4,000
Heating surface.....	3,000 sq. ft.	4,870 sq. ft.	3,900 sq. ft.	5,192 sq. ft.	7,275 sq. ft.	7,743 sq. ft.	12 knots
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

June, on account of a local strike of the building trade unions. On the date of our advice, the construction of a power house building was completed, the boilers and machinery were being erected and the first turbine generating unit, of 1,000 k.w. capacity, was expected to be in operation in August. Good progress was being made with the erection of the plate shop and of the office and stores building.

Harbour Marine Co. Ltd., Victoria, B. C.—The keel of the first of 2 steel cargo steamships of approximately 8,100 tons d.w. each for Canadian Government Merchant Marine Ltd., was laid July 14. It is stated that practically all the steel required for the first hull has been delivered at the yard and that rapid progress in construction will be made during the next few months. The construction is under the supervision of J. Clark, Naval Architect and Engineer. It is expected that the vessel will be ready for launching during Jan., 1920. The contract for these two vessels was awarded to the Victoria Machinery Depot Co. and the Harbour Marine Co. was organized to carry out the work.

A great deal of work was entailed in preparing the yard. A large electrical crane has been erected which travels on

gestions which are adopted are paid for. The company has its own restaurant, which is managed by a disabled soldier and his family. A yard association has been formed to further employes' interests. The scope and activities of this association are very varied, and embrace all forms of games, together with sick relief and provision for dependents. There is a grievance committee, which deals with all trouble in the yard, and a fire committee which looks after fire protection. Under these conditions mutual confidence and co-operation are developing in a marked degree. The idea of building up a shipyard with service men is an experiment introduced by the President, C. J. V. Spratt. When the recent strikes were on, the company was able to carry on its work steadily, owing to the understanding which existed between the management and the men.

The Nova Scotia Steel & Coal Co., New Glasgow, N.S., which is building 2 steel cargo steamships, of approximately 2,800 tons d.w. each, for Canadian Government Merchant Marine Ltd., and which laid the keels of the s.s. Canadian Sealer, builder's yard no. 5, Mar. 27; and of the s.s. Canadian Miner, builder's yard no. 6, Mar. 31, expects to launch Canadian Sealer in September

steel cargo steamships of approximately 5,100 tons d.w. each, for Canadian Government Merchant Marine Ltd., expects to launch the s.s. Canadian Settler, builder's yard no. 5, about Aug. 15; and the s.s. Canadian Rancher, builder's yard no. 6, about Sept. 1. The keels for the s.s. Canadian Fisher and the s.s. Canadian Forester, builder's yard nos. 7 and 8, respectively, will be laid immediately after the launchings of the s.s. Canadian Settler and the s.s. Canadian Rancher respectively.

Wallace Shipyards Ltd., North Vancouver, B.C.—Immediately after the launching of the s.s. Canadian Trooper, 4,300 tons d.w., Marine Department contract 5; builder's yard no. 106, on May 31, this company laid the keel of the s.s. Canadian Scout, 5,100 tons d.w. Marine Department contract 7; builder's yard no. 102, the laying of the keel and the erection of the whole center vertical girder only taking 33 minutes.

The s.s. Canadian Volunteer, 4,300 tons d.w., Marine Department contract 4; builder's yard no. 100, was completed and delivered to the Marine Department, June 10.

Naval Service Department Estimates for 1918-1919 and 1919-1920.

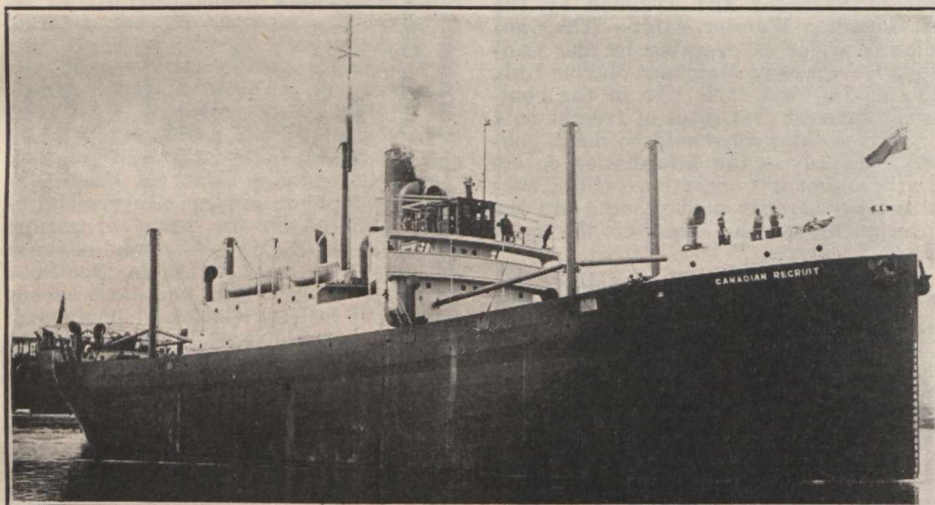
In addition to the estimates of which particulars were given in Canadian Railway and Marine World for May, pg. 283, the supplementary estimates for the year ended Mar. 31, 1919, submitted to the House of Commons, during the recent session, contained the following item:—

Patrol of northern waters of Canada,	
further amount required	\$25,000
The supplementary estimates for the year ending Mar. 31, 1920, contained the following items:—	
Fisheries protection service, to provide for new vessels on Lake Erie.....	\$150,000
Customs dues	500

Steamships for Pulpwood Trade—In reply to a deputation of pulp and paper manufacturers, at Montreal, July 11, the Minister of Marine, Hon. C. C. Ballantyne, in dealing with their complaints of difficulty in securing vessel room for shipments to England, stated that little relief could be expected until Canada owned and operated her own merchant marine. The Dominion Government could not influence the British Government to relax the restrictions placed on all British tonnage, but he pointed out that strong representations had been made on the matter. Speaking of what the Dominion Government was doing to provide the necessary accommodation, he stated that by the end of this year the government will own and operate 20 steamships, and that by the end of 1920 it would own and operate 50. At present controls 264,000 tons of shipping.

Sorel Shipbuilding Yard—The estimates for the year ending Mar. 31, 1919, passed at the Dominion Parliament's recent session contained an item of \$76,267 to pay estate D. & J. McCarthy the price fixed by Exchequer Court for expropriated land at Sorel on which the government shipyard is situated.

The Australian Government is reported to have placed orders with Vickers, Ltd., in England, for 3 cargo steamships with line capacity of 900,000 cub. ft. of which 400,000 cub. ft. is to be insulated.



Steel cargo steamship, Canadian Recruit, approximately 3,750 tons d.w., built for Canadian Government Merchant Marine Ltd., by Collingwood Shipbuilding Co., Collingwood, Ont.

a 20-ft. gauge track between the slipways, and has a radius of action of 75 ft. and serves two ships. It has a lifting capacity of 3 tons at the extreme distance. A 60 x 5 ft. bar furnace, burning oil fuel, has been constructed. The erection of large septic and oil tanks was necessary before the yard was ready for operation. The main plate shop is 300 x 100 ft., equipped with shears, punches with automatic tables, planer, rolls and other tools. The frame setting and beam bending shops, 180 x 80 ft., are equipped with the above mentioned furnace, horizontal punch, beam bender, angle cutter, friction cut off-saw, and cast iron slab floors and forge fires.

The company employs ex-service men and the large majority of the employes are war veterans, though there are quite a number of naval and military men who have seen active service in previous wars. The doyen of the watchmen was serving in the Royal Navy in 1858. Another was soldiering in Africa before the Franco-Prussian war. The most friendly relations exist between the employes and the management. A suggestion box is kept so that any man can convey his ideas direct to the management and sug-

and Canadian Miner in November.

Port Arthur Shipbuilding Co., Port Arthur, Ont., advised us recently that it had not laid the keels for the 2 steel cargo steamships of 4,300 tons each for which it has contracts from the Marine Department, viz: Marine Department contracts 32 and 33, builder's yard nos. 43 and 44, and that owing to the delay in securing material, it was impossible to say when they would be laid.

The company delivered the s.s. Canadian Trader, approximately 3,400 tons d.w., Marine Department contract 19; builder's yard no. 39, to the Marine Department, July

The Prince Rupert Drydock & Engineering Co., Prince Rupert, B.C., advised us recently that it was impossible to tell when the keels for the 2 steel cargo steamships of 8,100 tons d.w. each, for which it has contracts from the Marine Department, for Canadian Government Merchant Marine Ltd., would be laid, as its operations had been badly handicapped by the strike prevalent on the Pacific coast.

Tidewater Shipbuilders Ltd., Three Rivers, Que., which has contracts for 4

Public Ownership of United States Steamships Opposed.

Following is a summary of recommendations made to the U.S. Congress recently by E. N. Hurley, Chairman U. S. Shipping Board:—

The shipping board recommends private ownership and operation as a fundamental policy for commercial shipping. The government should, therefore, contemplate retirement from commercial ship building, ship owning and ship operating activities at the earliest date which may be convenient and practical in order to give our overseas trade the full benefit of competitive service; to leave steamship operators free to render this competitive service, and to impart to present and prospective steamship operators that confidence which they must feel before they can be expected to invest their money in existing ships, and to place the orders for new ships without which the outlook for the U.S. shipbuilding industry will be not encouraging.

In order to carry out this policy, the government should construct no more ships, other than those now in the programme except such new vessels as may be needed to balance the fleet, and for the construction of which funds may be provided as specified. It should adopt, and rigidly adhere to, a definite plan for selling its ships. Obviously it would be impossible to sell the whole fleet at once, but during the period in which the ships are being sold it is essential that the government handle the unsold ships in a manner which will not permit their operation to react unfavorably upon the operation of the ships which have been sold, and will definitely tend to stimulate the purchase of more ships by private operators. This double purpose can be served by assigning unsold ships to managers, or operators, as has been, and still is, the shipping board's practice or by chartering vessels to private operators for limited periods and on terms which will not tend to remove the incentive to buy.

Act Respecting Transfer of Vessels Registered in Canada.

An act to amend the Canada Shipping Act re transfers of mortgages of ships, which has been passed by the Dominion Parliament, provides that a transfer, mortgage, or transfer of a mortgage of a British ship registered in Canada by a person not qualified to own a British ship, or to a foreign controlled company, shall not have any effect unless it be approved by the Minister of Marine, and any person who makes or purports to make such a transfer without such approval shall incur a fine not exceeding \$5,000, or imprisonment for not exceeding 5 years, or both fine and imprisonment, on summary conviction, or on indictment.

A foreign controlled company means any corporation where the majority of directors are not British subjects; where the majority of the voting power is in the hands of persons who are not British subjects or who exercise directly or are in control on behalf of persons who are not British subjects; where the control is by any other means in the hands of persons who are not British subjects, and where the executive is a foreign controlled company, or where the majority of the executive are appointed by a

foreign company. A corporation shall not be deemed to be a British subject, unless it be established in, and subject to the laws of some part of the British Dominions or a British protectorate, and has its principal place of business there. The Minister of Marine may require any person who is an owner, or mortgagee, of a British ship registered in Canada, or who applies to be registered as the owner or mortgagee, to furnish such particulars as appear necessary for the purpose of ascertaining if such person has been, or is, trustee for, or represents a foreign controlled company, and, in the case of a corporation, it may require the secretary, or other officer performing such duties, to furnish these particulars.

A fine of \$1,000, or imprisonment for five years, or both fine and imprisonment, is provided for in the case of any person who fails to supply such particulars as are in his power that may be required.

The act is to remain in operation for three years.

Decision on a Salvage Claim.

Justice Hodgins gave judgment recently in the Exchequer Court, Toronto Admiralty District, in an action for salvage of the steamship Keyvive vs. the tug S.O. Dixon et al, as follows:—

"Under all the circumstances this should be considered upon the basis of a salvage claim in the sense that there was danger, apprehended danger at all events, and very real apprehended danger to these vessels, and that the Keyvive undertook the work under the belief that they were in some danger and at some risk to herself. I agree with the argument that has been made that a vessel of this size, 260 ft. long, and with the engines at the stern, a steel vessel, having to undertake to gather up and tow in waters that were somewhat confined, a tug and two barges, all of them unable to help themselves, would mean fairly good seamanship and might very easily have resulted in an injury to the salvaging vessel. I therefore pronounce in favor of plaintiffs that the claim is a proper salvage claim and they are entitled to recover upon that basis. Let judgment be entered for plaintiffs for \$2,500 for salvage services, of which \$2,000 will be apportioned to the owner, \$200 to the master, and \$300 to the crew of the Keyvive, according to their ratings. The defendants to pay the costs of the action, except those relating to the arrest and release on bail, including any applications relative thereto." Francis King, of Kingston, Ont., was counsel for plaintiffs.

The Dominion Steel Corporation's Requisitioned Steamships.

Mark Workman, President Dominion Steel Corporation, in speaking at its recent annual meeting, said:—

Publicity has been given to the progress of negotiations in reference to the return of our chartered steamers which are in the hands of the British Shipping Controller. I would like to amplify the information already imparted by stating that we have succeeded in our actions against the owners of our British chartered vessels, by decisions in our favor, both in the court of first instance and in the court of appeal. As a result of these decisions it is established that the charters have not been

"frustrated" by the requisitioning of the vessels, but remain in full force and effect.

Several months ago the British authorities issued a statement to the effect that all requisitioned vessels would be released on Mar. 1, 1919, or as soon after that date as the vessels' current voyages would permit. I found, however, that certain powers had been vested in the Shipping Controller, whereby he is authorized to "direct" steamers as he may desire, which, as far as we are concerned, amounts to virtual requisitioning. Representations have been and are being made to the Shipping Controller, both directly and indirectly, urging the immediate return of our vessels, in addition to which we are in almost daily communication with the steamship owners. I am distinctly hopeful in regard to the situation, and am confident that at least a portion of the tonnage will shortly be in our possession.

Dry Dock Subsidies Act Amendment.

An act was passed by the Dominion Parliament at its recent session amending the act to encourage the construction of dry docks in Canada by repealing the section which provided for the payment of a subsidy of not exceeding 3½% annually of the cost of construction of second class docks, and fixing the amount to be paid at 4½%, half yearly, for 35 years from the completion of the work.

The amended section is not to apply to any agreement heretofore made for the construction of any dry dock.

It also provides that no bonds or other securities are to be issued as a charge upon any dock until not less than \$500,000 has been spent on the work and material, and that there are no outstanding liens or claims against the property, when such securities may be issued with the consent of the Minister of Public Works and any subsidy may be assigned to a trustee for the bondholders, to whom subsidy payments will be made direct. Until the dock is completed to the minister's satisfaction, the total amount of bonds to be issued shall not exceed 75% of the amount actually expended for work and materials, and the minister's consent must be obtained before any bond issue is made. Half-yearly payments may be made on account of the subsidy, at the rate of 4½% a year on 75% of the cost of work and materials, after an expenditure of \$500,000 on the certificate of the Public Works Department's engineers.

Subway Under Detroit River.—The Mayor of Detroit, Mich., is reported to have sent a memorial to the Dominion Government, and to the United States Government, favoring the construction of a subway under the Detroit River, to connect Detroit, Mich., and Windsor, Ont. The distance between the two cities is approximately 1,200 yards, and it is suggested that the subway be constructed of such a size that, in addition to general traffic, electric cars may be operated through it. A press report, July 5, states that a Detroit contractor has made tentative proposals for building such a subway, and that the city engineer puts the cost of the work at \$6,000,000. The plan suggested is that each city should build its own approaches to the subway, which would be built by a joint stock company.

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	Builder	Yard no.	Long tons d.w.	Price per ton d.w.	Total price	Type	Classification	Speed, knots	Approximate delivery date	Keel laid	Launched	Name
1	Mar. 4, 1918	Canadian Vickers Ltd., Montreal	66	*4,575	\$207.	\$ 947,025	S.d., p., b. and f'c's'le.....	Lloyd's	11	Dec. 31, 1918	June 11, 1918	Nov. 23, 1918	Canadian Voyageur
2	May 22, 1918	"	67	*8,408	180.	1,513,440	2.d., p., b. and f'c's'le.....	"	11	Jan. 31, 1919	July 17, 1918	Dec. 3, 1918	Canadian Pioneer
3	May 18, 1918	Collingwood Shipbuilding Co., Collingwood, Ont.	61	*3,995	205.	818,975	Lake, s.d., p., b. and f'c's'le	Bri. Corp.	9	May 1, 1919	Not stated	Dec. 21, 1918	Canadian Warrior
4	Mar. 15, 1918	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	Mar. 31, 1919	Oct. 1, 1918	Apr. 5, 1919	Canadian Volunteer
5	Nov. 25, 1918	"	106	4,300	217.	933,100	S.d., p., b. and f'c's'le.....	"	11	May 31, 1919	Nov. 15, 1918	May 31, 1919	Canadian Trooper
6	Nov. 25, 1918	"	101	5,100	210.	1,071,000	S.d., p., b. and f'c's'le.....	"	11	July 31, 1919	Apr. 5, 1919		Canadian Aviator
7	Nov. 25, 1918	"	102	5,100	210.	1,071,000	S.d., p., b. and f'c's'le.....	"	11	Sept. 30, 1919	May 31, 1919		Canadian Scout
10	July 5, 1918	Collingwood Shipbuilding Co., Collingwood, Ont.	62	*3,964	205.	812,620	Lake, s.d., p., b. and f'c's'le	Bri. Corp.	9	May 15, 1919	June 3, 1918	May 3, 1919	Canadian Recruit
11	Oct. 17, 1918	"	63	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	"	9	July 15, 1919	Jan. 16, 1919	June 28, 1919	Canadian Signaller
12	Oct. 17, 1918	"	64	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	"	9	July 1, 1919	Feb. 10, 1919		Canadian Gunner
13	Aug. 9, 1918	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	Aug. 1, 1919	Jan. 8, 1919		Canadian Settler
14	Aug. 9, 1918	"	6	5,100	200.	1,020,000	S.d., p., b. and f'c's'le.....	"	11	Sept. 1, 1919	Jan. 10, 1919		Canadian Rancher
15	Jan. 24, 1919	"	7	5,100	200.	1,020,000	S.d., p., b. and f'c's'le.....	"	11	Nov. 15, 1919			Canadian Fisher
16	Jan. 24, 1919	"	8	5,100	200.	1,020,000	S.d., p., b. and f'c's'le.....	"	11	May 15, 1920			Canadian Forester
17	Sept. 4, 1918	Davie Shipbuilding & Repairing Co., Lauzon, Que.	459	5,100	200.	1,020,000	S.d., p., b. and f'c's'le.....	"	11	Nov. 1, 1919	Mar. 11, 1919		Canadian Trapper
18	Sept. 4, 1918	"	460	5,100	200.	1,020,000	S.d., p., b. and f'c's'le.....	"	11	Nov. 8, 1919	Mar. 28, 1919		Canadian Hunter
19	Sept. 4, 1918	Port Arthur Shipbuilding Co., Port Arthur, Ont.	39	3,400	205.	697,000	Lake, s.d., p., b. and f'c's'le	"	9	June 1, 1919	Dec. 9, 1918	May 5, 1919	Canadian Trader
19a	Mar. 1, 1919	"	41	3,400	210.	714,000	Lake, s.d., p., b. and f'c's'le	"	9	Sept. 30, 1919	Mar. 31, 1919		Canadian Adventurer
20	Sept. 4, 1918	"	40	3,400	205.	697,000	Lake, s.d., p., b. and f'c's'le	"	9	July 1, 1919	Dec. 10, 1918	May 31, 1919	Canadian Sailor
20a	Mar. 1, 1919	"	42	3,400	210.	714,000	Lake, s.d., p., b. and f'c's'le	"	9	Oct. 31, 1919	Mar. 31, 1919		Canadian Cadet
21	Sept. 13, 1918	Halifax Shipyards, Ltd., Halifax, N.S.	1	8,100	195.	1,579,500	2.d., p., b. and f'c's'le.....	"	10	Dec. 19, 1919	Feb. 24, 1919		Canadian Mariner
22	Sept. 13, 1918	"	2	8,100	195.	1,579,500	2.d., p., b. and f'c's'le.....	"	10	Apr. 1920	Mar. 15, 1919		Canadian Explorer
23	Oct. 11, 1918	Canadian Vickers Ltd., Montreal...	73	4,800	215.	924,500	S.d., p., b. and f'c's'le.....	"	11	May 27, 1919	Jan. 22, 1919		Canadian Navigator
24	Oct. 11, 1918	"	68	*8,382	188.	1,575,816	2.d., p., b. and f'c's'le.....	"	11	May 1, 1919	Aug. 26, 1918	Apr. 19, 1919	Canadian Ranger
25	Oct. 11, 1918	"	69	8,100	188.	1,522,800	2.d., p., b. and f'c's'le.....	"	11	June 1, 1919	Nov. 30, 1918	May 7, 1919	Canadian Seigneur
26	Oct. 11, 1918	"	70	8,100	188.	1,522,800	2.d., p., b. and f'c's'le.....	"	11	July 1, 1919	Dec. 2, 1918		Canadian Miller
27	Oct. 11, 1918	"	71	8,100	188.	1,522,800	2.d., p., b. and f'c's'le.....	"	11	Aug. 1, 1919	Apr. 23, 1919		Canadian Spinner
28	Oct. 11, 1918	"	72	8,100	188.	1,522,800	2.d., p., b. and f'c's'le.....	"	11	Sept. 1, 1919	May 10, 1919		Canadian Planter
29	Jan. 24, 1919	Victoria Machinery Depot Co., Victoria, B.C.	1	8,100	198.	1,603,800	2.d., p., b. and f'c's'le.....	"	11	Jan. 31, 1920	July 14, 1919		
30	Jan. 24, 1919	"	2	8,100	198.	1,603,800	2.d., p., b. and f'c's'le.....	"	11	Nov. 30, 1920			
31	Dec. 11, 1918	Collingwood Shipbuilding Co., Kingston, Ont.	15	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	Brit. Corp.	9	Nov. 1, 1919	Apr. 7, 1919		Canadian Beaver
32	Mar. 1, 1919	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	Nov. 1, 1919			
33	Mar. 1, 1919	"	44	4,300	215.	935,250	S.d., p., b. and f'c's'le.....	"	10½	Nov. 15, 1919			
34	Nov. 22, 1918	J. Coughlan & Sons, Vancouver, B.C.	11	8,100	198.	1,603,800	2.d., p., b. and f'c's'le.....	"	11	July 31, 1919	Apr. 26, 1919		Canadian Importer
35	Nov. 22, 1918	"	12	8,100	198.	1,603,800	2.d., p., b. and f'c's'le.....	"	11	Aug. 31, 1919	May 3, 1919		Canadian Exporter
36	Nov. 22, 1918	"	13	8,100	198.	1,603,800	2.d., p., b. and f'c's'le.....	"	11	Sept. 30, 1919			Canadian Inventor
37	Nov. 22, 1918	"	14	8,100	198.	1,603,800	2.d., p., b. and f'c's'le.....	"	11	Oct. 31, 1919			Canadian Prospector
38	Dec. 10, 1918	Halifax Shipyards Ltd., Halifax, N.S.	3	10,500	197½	2,073,750	3.d., p., and f'c's'le.....	"	12	Aug. 1, 1920			
39	Dec. 10, 1918	"	4	10,500	197½	2,073,750	3.d., p., and f'c's'le.....	"	12	Nov. 1, 1920			
40	Mar. 31, 1919	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	Oct. 1919	Mar. 27, 1919		Canadian Sealer
41	Mar. 31, 1919	"	6	2,800	210.	588,000	S.d., p., b. and f'c's'le.....	"	8½	Nov. 1919	Mar. 31, 1919		Canadian Miner
42	Feb. 21, 1919	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	Feb. 1920			
43	Feb. 21, 1919	"	2	8,100	198.	1,603,800	2.d., p., b. and f'c's'le.....	"	11	June 1920			
44	Jan. 23, 1919	British American Shipbuilding Co., Welland, Ont.	4	4,350	215.	935,250	S.d., p., b. and f'c's'le.....	Brit. Corp.	10	Nov. 1919	Mar. 29, 1919		Canadian Otter
45	Jan. 23, 1919	"	5	4,350	215.	935,250	S.d., p., b. and f'c's'le.....	"	10	June 1920	July 14, 1919		Canadian Squatter
46		Collingwood Shipbuilding Co., Collingwood, Ont.		3,750	180.	675,000	Lake, s.d., p. b., and f'c's'le	"	9	Apr. 1920			
47		"		3,750	180.	675,000	Lake, s.d., p. b., and f'c's'le	"	9	Apr. 1920			
				272,904		\$54,348,536							

General Shipbuilding Matters Throughout Canada.

Cholberg Ship Co., Victoria B.C.—The second auxiliary powered schooner built for the Porsgrund Damp and Seil Co., Porsgrund, Norway, by this company, was launched during July, and christened Washington, by Mrs. C. Cholberg, wife of the company's manager. On completion the vessel will go to the Columbia River for a cargo of railway ties for England.

The Dominion Shipbuilding Co., Toronto, launched the steel cargo steamship Hessa, July 12, the christening being performed by Mrs. J. B. Simpson, New York. This vessel is one of six steel cargo steamships built for ocean service during the war. She is of the single deck type, with poop, bridge and forecastle, steel texas on bridge, with wing deckhouses, chart room and pilot house, and is built on the transverse system, with steel hull divided into compartments by 4 watertight bulkheads and 1 screen bulkhead. She has cargo capacity for 151,466 cub. ft. of grain, with carrying capacity of 3,550 tons. She has a double bottom fore and aft for 779 tons of water ballast, and the water tank capacity is 5,053 imp. gals. There are 4 hatches, each 22 x 18 ft. She is schooner rigged, with 2 pole masts and is classed 100 A1 at Lloyd's for ocean service. The propelling machinery consists of inverted triple expansion engines with three cylinders, 20, 33 and 54 ins. diam., by 40 in. stroke, 165 n.h.p., 1,200 i.h.p., at 87.5 r.p.m., supplied with steam by two Scotch marine boilers, each 14½ ft. diam. by 11 ft. long, 2,730 sq. ft. heating surface, each boiler, at 180 lb. a sq. in.; average speed 10.2 knots on a fuel consumption of 20.1 tons in 24 hours. The screw is cast iron, 13¼ ft. diam. and has 4 wings, 12 ft. 8 in. pitch. The auxiliary equipment includes 8 reversible single drum, 7 x 5 in. cargo winches, anchor windlass 8 x 8 in., and steam steering gear 7 x 7 in. There is accommodation for 35 officers and men. Her dimensions are, length overall, 261 ft.; length between perpendiculars, 251 ft.; breadth moulded, 43½ ft.; depth moulded, 24 ft. 2½ in.; approximate tonnage, 2,300 gross, 1,400 register.

Foundation Co., Victoria, B.C.—The ninth of the 20 wooden steamships of 3,000 tons capacity, being built by this company at its Point Hope and Point Ellice yards for the French Government, was launched July 4, and named Trois Rivieres. The vessel built under yard no. 207, was completed early in the month, and underwent her trials July 5, and was turned over to her owners July 10. Over the measured mile she exceeded her contract speed of 11 knots, her maximum speed on the whole trip being 12.377 knots, with an average of 11.91 knots. The names selected for the 20 vessels are: Strasbourg, Metz, Mulhouse, Canada, Montcalm, Winnipeg, Ontario, Wilfrid Laurier, Trois Rivieres, Vancouver, Victoria, Quebec, Montreal, Ottawa, Frontenac, La Salle, Acadie, Montmagny, Alberta and Nouvelle Ecosse. They are full powered vessels, of the following chief dimensions: Length overall, 293 ft.; length b.p., 276 ft.; beam extreme, 47½ ft.; beam moulded, 46½ ft.; depth moulded, 23½ ft.; draft over keel, 23½ ft.; displacement, 5,655½ tons.

Grant & Horne, St. John, N.B., engineers and contractors, who built several steamships for the British Government, under orders from the Imperial Munitions Board, have dissolved part-

nership, E. G. Horne retiring, and J. A. Grant carrying on the business under the same name as heretofore. He will continue to build ships, if contracts can be obtained, but will particularly concentrate on construction work.

R. H. Howes Construction Co., Yarmouth, N.S., launched the schooner Maria A. Howes, 485 gross, 415 register, July 1. She is classed A1 at Lloyd's, and has been taken to St. John, N.B. to load lumber for Great Britain under charter.

T. H. & W. S. McDonald, Meteghan, N.S., have a three-masted schooner of 360 tons under construction for coal and general cargo coastwise trade. Several vessels have been built at this yard during the war, the last one, the barkentine T. H. McDonald, having arrived recently at Montevideo, where she is taking on a general cargo for a European port under charter to a New York company.

McKay & McLean, Parrsboro, N.S., launched the tern schooner Acadian Queen, 440 tons register, at the end of June. She is classed with Bureau Veritas for 12 years and is fitted with engine for hoisting power. It is stated that she will be operated in the coasting trade by her builders.

National Shipbuilding Co., Levis, Que. Canadian Railway and Marine World for January described an interesting operation performed by the National Shipbuilding Co. at its Levis, Que., shipyard, viz: the bringing out of the water on a specially constructed marine railway, of the steel suction dredge Galveston, for rebuilding and conversion into an ocean freighter for the Affrèteurs Réunis of Paris, France. The work of reconstruction was carried out during the past winter, and, although the slip was not protected or covered in any way, very little time was lost on account of cold or snow, and on May 31, the vessel was launched 95% completed and fitted out. The work consisted of the removal of all superstructures, dredging equipment and hoppers, and the construction of a new double bottom, with ballast tanks, cargo holds with 2 new watertight bulkheads, raising of the forecastle, main and poop decks, 8 ft., with new steel decks; construction of a bridge deck, and deck house accommodations amidships, with chart room and navigating bridge above, crew's quarters in 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, complete electric installation, etc. The official trials were successfully carried out on June 21, under the supervision of officials of Bureau Veritas. The dimensions of this vessel, which has been renamed Pomone, are as follows: Length, between perpendiculars, 233 ft.; beam, 39 ft.; moulded depth, 23 ft. 6 in.; deadweight tonnage, 3110 tons.

The National Shipbuilding Co. is about to commence the reconstruction of a lake steamship, for a Cuban firm of ship owners, and it is negotiating with the French Government for the construction of several 6,000-ton steel freight steamships.

Quebec, Que.—T. M. Kirkwood, who

is interested in a project for the construction of steel steamships in Quebec, addressed a meeting of the Quebec Board of Trade Council early in July, to discuss the establishment of a steel shipbuilding plant there. His proposal is to build a plant for the construction of at least 30 steel steamships of 10,000 tons d.w. capacity each, for a daily service between Quebec and European ports, the vessels to be registered and controlled in Quebec. He contends that the Provincial Government should guarantee the necessary bond issue, and also that the Dominion Government should interest itself in the matter.

The Great Lakes Transportation Co.'s Purchases of United States Vessels.

The Great Lakes Transportation Co., Midland, Ont., of which James Playfair is President and General Manager, has bought the steamships America, Brazil and Granville A. Richardson. The first two were owned formerly by the North American Steamship Co., Cleveland, Ohio, and the last one was owned by the Erie Rd. Steamship Line.

The s.s. America is a steel vessel of the spar deck type, with double bottom for watertight ballast, steel boiler house, 3 watertight bulkheads, and electric lighting equipment. She was built at Buffalo, N.Y., in 1889, and overhauled in 1913. Her dimensions are: Length b.p., 274 ft. 7 in.; breadth, moulded, 42 ft. 2 in.; depth moulded, 24 ft. 4 in.; tonnage, 2,171 gross; 1,748 net. The propelling machinery consists of fore and aft compound engine, with cylinders 28 and 52 in. diam. by 48 in. stroke, 750 i.h.p. at 82 r.p.m., supplied with steam by 2 Scotch boilers, each 11½ by 12 ft., under forced draft, at 125 lb.

The s.s. Brazil is a steel vessel of the spur deck type, with double bottom for watertight ballast, 2 watertight and 2 nonwatertight bulkheads, steel boiler house, electric light, etc. She was built at Buffalo, N.Y., in 1890, and was overhauled in 1913. Her dimensions are: Length b.p., 276 ft. lin.; breadth moulded, 40 ft. 2 in.; depth moulded, 24 ft. 4 in.; tonnage, 2,186 gross; 1,665 net. The propelling machinery consists of triple expansion engine, with cylinders 19½, 32 and 52 in. diam. by 45 in. stroke, 985 i.h.p., at 84 r.p.m., and supplied with steam by 2 Scotch boilers, each 11½ by 12 ft., at 160 lb.

The s.s. Granville A. Richardson is a steel vessel of spar deck type, with double bottom for watertight ballast, 6 watertight and 2 nonwatertight bulkheads, electric light, etc. She was built at Buffalo, N.Y., in 1893, and named George J. Gould. The propelling machinery consists of triple expansion engine, with cylinders 18, 30 and 48 in. diam. by 42 in. stroke, 800 i.h.p. at 83 r.p.m., supplied with steam by 2 Scotch boilers, each 11½ by 12 ft., at 160 lb. Her dimensions are: Length b.p., 266 ft.; breadth moulded, 41 ft.; depth, 25½ ft.; tonnage, 2,237 gross; 1,790 net.

These vessels have been transferred to the Canadian register, and their names have been changed to Glenstriven, Glenbrae and Glencairn, respectively.

A steamboat service for freight was commenced early in July on the Saskatchewan River from Prince Albert north to Nipawin, about 100 miles.

Mainly About Marine People.

James Hugh Allan, a son of the founder of the Allan Line, who died recently in Great Britain, left an estate of \$1,850,000.

Hugh Allan, formerly of the Allan Steamship Co., Montreal, and Mrs. and Miss Allan, all of whom have been in England for several years, are spending the summer at the Algonquin Hotel, St. Andrews, N.B.

Hon. C. C. Ballantyne, Minister of Marine and Naval Service, left Ottawa July 12, intending to spend about three weeks with Mrs. Ballantyne and their family, at the Algonquin Hotel, St. Andrews, N.B.

C. E. Benjamin, Passenger Traffic Manager, Canadian Pacific Ocean Service, Ltd., has returned to Montreal after a visit to England.

J. M. Clark, who has been appointed Naval Architect for the Harbour Marine Co., Ltd., Victoria, B. C., which has contracts from the Marine Department for 2 steel cargo steamships of a approximately 8,100 tons d. w. each for Canadian Government Merchant Marine Ltd., has had an extended experience. Having familiarized himself with shipbuilding work on shore he spent 8 months at sea, as ship's carpenter, on the sailing ship Tycoon, to learn the working of a ship at sea. He was for 15 years with a large shipbuilding firm in England, during the last 7 years of which he was manager. While there he won a \$4,000 prize offered by the Thames Conservancy Board in a competition open to the world. He laid out the dockyards at Bilbao, Spain, for building armoured cruisers. Later he spent 12½ years in Japan, where he designed and superintended the construction of ships built by the Mitsu Bishi Dockyard and also 14,000 ton steamships for the Toyo Kissen Kaisha.

Duncan D'Eyncourt Cooper, who has been appointed Agent, Export and Import Traffic, Canada Steamship Lines, Ltd., Toronto, was born at Buffalo, N.Y., July 8, 1862, and entered transportation service in Sept., 1881, since when he has been, to 1882 freight clerk, G.T.R., Montreal; 1882 to 1884, freight clerk, G.T.R., Toronto; 1884 to 1885, chief clerk to District Freight Agent, G.T.R., Toronto; 1884 to 1885, chief clerk to District Freight Agent, G.T.R., Toronto; 1885 to 1889, City Freight Agent, G.T.R., Montreal; 1889, to the closing of U.S. railway offices in Canada by the U.S. Railroad Administration in 1917, Canadian Freight Agent, Lehigh Valley Rd., Toronto.

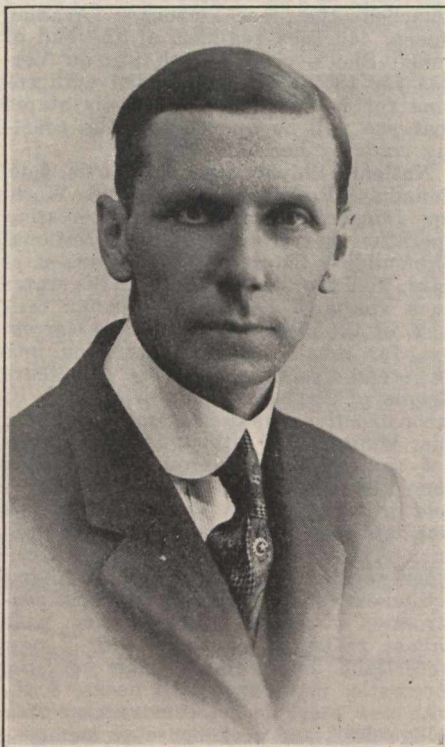
Capt. A. W. Davison, R. N. R., formerly master of the s.s. Empress of Asia, is reported to have been appointed Marine Superintendent, Canadian Pacific Ocean Services, Ltd., at Hong Kong, China. He was in charge of the Empress of Asia throughout the war, during which she acted as a transport between practically every country of importance in the world.

Mrs. G. J. Desbarats, wife of the Deputy Minister of the Naval Service, and her family, are spending some time at Echo Lodge.

Robt. Dollar, of the Dollar Steamship Lines, is announced as one of the speakers at the industrial congress to be held at Calgary, Alta., Aug. 13 and 14.

Commander Thomas Fisher, C. B. E., R. N., who has been appointed General

Manager, Atlantic Lines, Canadian Pacific Ocean Services Ltd., Liverpool, Eng., was born at Birmingham, Eng., in 1883, and underwent training at Dartmouth, Eng., on the old wooden battleship Britannia. He spent four years in China during the Boxer rebellion, and subsequently passed his examinations and secured rapid promotion, becoming a lieutenant at the age of 20. He served in the Mediterranean on H. M. S. Bacchante. After having qualified in gunnery, he served on the staff of the Director of Target Practice, and subsequently joined the H. M. S. Bellerophon, as gunnery officer, and after taking the staff course, was selected as a lecturer at the Naval College, Portsmouth, Eng. At the outbreak of war he served as Flag Commander in the Reserve Fleet, and was associated with the work of safeguarding the passage of the forces from England to France. At the end of 1914 he



R. B. Teakle,
Manager, Canadian Government Merchant Marine Limited.

joined the Trade Division of the Naval War Staff at the Admiralty, and was in charge of part of the organization dealing with questions relating to neutral shipping. He took part in the supervision of movement of cargoes, etc., on neutral vessels, by means of control of their coal supply at ports both at home and abroad. In 1916 he acted as technical representative in negotiations for the use of neutral shipping by the allied powers, and incidentally gained valuable knowledge of European shipping interests. He served on various Government committees, dealing with commercial and shipping matters, and in 1917, was appointed liaison officer to link the British Ministry of Shipping with the U.S. Shipping Board, and while in the U. S. he had opportunities of examining at first hand shipping and transport problems of Canada and the U. S., his duties calling for visits to Canadian and U. S. ports on the Atlantic and Pacific oceans.

Mrs. Foy, widow of John Foy, formerly President Niagara Navigation Co., who died in Toronto recently, left an estate, valued at \$41,253, to her two sons, F. C. Foy, Passenger Agent, New York Central Rd., Utica, N.Y., and J. V. Foy, General Passenger Agent, Canada Steamship Lines, Toronto, who are her executors, to be used for the maintenance of the family residence, and of those of her family who may be residing therein. Mrs. Foy, who was a daughter of the late Sir Frank Smith, also a former President of the Niagara Navigation Co., received a considerable annual income from his estate.

Capt. A. J. Hailey, R. N. R., Master of the Canadian Pacific Ocean Service's s. s. Monteagle, is reported to have been transferred to the company's s. s. Empress of Asia, succeeding Capt. A. W. Davison, transferred to shore service.

George Hall, head of the George Hall Coal Co. of Canada, Ltd., and other concerns which bear his name at Ogdensburg, N.Y., died at his house in Montreal, June 24, aged 72, and was buried at Ogdensburg. In his early days he was a telegraph operator and subsequently started business in coal transportation at Ogdensburg, being one of the first to enter the coal trade on the St. Lawrence River. When it became necessary for the Ogdensburg and Lake Champlain Rd. to change its locomotives so as to burn coal instead of wood, owing to the scarcity of lumber, he obtained the contract for 5,000 tons of coal which was brought down from Lake Erie. He later had a large contract for supplying coal to the C.P.R.

Sir Arthur Harris, Director General, British Ministry of Shipping, Canada, sailed from New York, June 28, on the s.s. Aquitania for England.

E. N. Hurley, Chairman, U. S. Shipping Board, has resigned, effective Aug. 1. It is stated that he will be succeeded by J. B. Payne, General Counsel, U. S. Railroad Administration, Chicago, Ill.

Col. G. Patterson Murphy, President, Ottawa Transportation Co., and Mrs. Murphy, are spending some time at Rye Beach.

Sir Henry M. Pellatt, C. V. O., Toronto, has been elected a director of Canada Steamship Lines, Ltd. He was at one time director of the Richelieu and Ontario Navigation Co., now one of the constituents of Canada Steamship Lines, Ltd.

Capt. J. E. Pettis, who died at Port Greville N.S., recently, aged 79, was one of the oldest sailing vessel masters along the Atlantic coast, and was at one time the owner of a large fleet. He is said to have built the first three-masted schooner launched in Canada. During the war he re-entered the shipbuilding business and was concerned with the building of two schooners at Spencers Island, the last one the Minas Prince, being launched in February.

Capt. G. E. L. Robertson, heretofore Agent Marine Department, Victoria, B.C., has been appointed Superintendent of Pilotage, at Ottawa, Ont. He was presented with a suit case by the employees of the department at Victoria, July 12, on leaving for the east.

John Roy Shaw, who has been appointed Passenger Agent, Canadian Pacific Ocean Services Ltd., Manila, Philippine Islands, was born at Montreal,

June 28, 1871, and entered transportation service in 1885, since when he has been, to 1891, clerk in Passenger Department, C.P.R., Montreal; 1895 to 1898, clerk and ticket agent, C.P.R., Boston, Mass.; 1898 to 1904, Travelling Passenger Agent, C.P.R., Boston, Mass.; Feb., 1904 to June 1916, Passenger Agent, C.P.R., Yokohama, Japan; June, 1916, to June, 1917, General Agent, Passenger Department, Canadian Pacific Ocean Services Ltd., Shanghai, China; June, 1917, he was appointed General Agent, Passenger Department, same company, Hong Kong, China, and latterly to July, 1919, was Passenger Agent, same company, New York, N.Y.

Robert B. Teakle, whose appointment as Manager, Canadian Government Merchant Marine Ltd., Montreal, was announced in our last issue, was born at Quebec, Que., May 19, 1877, and entered transportation service in May, 1893, since when he has been to Apr., 1904, in various positions, Allan Line Steamship Co., at Quebec, Halifax and Portland, Me.; Apr., 1904 to Oct., 1914, in various positions at Montreal, and the latter portion of that time, as Manager, same company, St. John, N.B.; Oct., 1914 to Mar., 1918, Manager, same company, Boston, Mass.; Mar., 1918 to Apr., 16, 1919, Northeastern Manager, France and Canada Steamship Corporation, Boston.

Lorne C. Webster, President, Webster Steamship Co., left Montreal early in July, for Winnipeg, intending on his return to spend some time with his family at Metis, Que.

J. A. Wilson, Director of Stores, Naval Service Department, Ottawa, is to be appointed Assistant Deputy Minister, Naval Service. The supplementary estimates, passed at the Dominion Parliament's recent session, provide for increase of his salary, from \$3,100 a year to \$3,500, from July 1, 1918.

R. M. Wolvin, President Montreal Transportation Co., and Vice President, Halifax Shipyards Ltd., has been elected a director of the Dominion Steel Corporation.

The sinking of the s. s. Lusitania by Germans, which caused one of the principal sensations of the war, was again before the court at New York, July 14, when all claims against the Cunard Steamship Co., were dismissed, and all future claims barred, on the ground that the sinking of the vessel, May 7, 1915, was caused solely by an illegal act of the German Government acting through its instrument the commander of a submarine, and that the company was not liable to any extent for any loss, damage, injury or claim whatsoever arising in consequence of the commission of the unlawful act. All the claims were dismissed, without costs and the company's officers were absolved of any fault or neglect in connection with the loss. There were 64 claims aggregating about \$6,000,000.

The York Steamship Co. Ltd., has been incorporated under the Dominion Companies Act with capital stock of 1,000 shares of no nominal or par value, provided that the amount with which the company shall carry on business shall be \$5,000, and with head office in Toronto, to own and operate steam and other vessels for the carriage of mails, passengers and merchandise, and to carry on a general navigation and steamship management business.

Shipbuilding in Canada for the British Government.

Steamships Launched and Under Construction—Since the information given in our last issue respecting launchings of steamships under construction in Canada for the British Government was published, the following steel steamships have been launched: July 7, War Racoon, 3,500 tons d.w., by British American Shipbuilding Co., Welland, Ont.; July 23, War Algoma, 3,500 tons d.w., by Polson Iron Works, Ltd., Toronto, Ont.; July 28, War Company, 8,800 tons d.w., J. Coughlan & Sons, Vancouver, B.C.; July 26, War Vixen, 3,500 tons d.w., by Canadian Allis-Chalmers, Bridgeburg, Ont. This leaves 3 steel steamships still under construction with a total tonnage of 15,700. All the wooden steamships ordered for the British Government have been completed, viz: 46, with an aggregate d.w. tonnage of 141,680, and 38 steel steamships with an aggregate d.w. tonnage of 188,600, a grand total of 84 vessels and 330,280 tons. The following steel steamships are still under construction:

Builder.	Tons d.w.
J. Coughlan & Sons, Vancouver, B.C.— War Chariot	8,800
Midland Shipbuilding Co., Midland, Ont.— War Fury	3,400
Polson Iron Works, Ltd., Toronto, Ont.— War Halton	3,500
3 steel steamships	15,700

British American Shipbuilding Co., Welland, Ont.—The third of the steel steamships of 3,500 tons d.w. capacity, to be built for the British Government, under orders from the Imperial Munitions Board, was launched at this yard, July 7, and named War Racoon, by Mrs. H. T. F. Estrup. The first vessel, War Weasel, was launched Aug. 21, 1918, and the second, War Badger, Jan. 21. These vessels are of the standard type adopted by the board, for 3,500 tons d.w. capacity, and are 261 ft. long, 43½ ft. beam, 23 ft. deep, and are designed for ocean service.

Canadian Allis-Chalmers, Ltd., Bridgeburg, Ont.—The strike which had been in progress at this yard for about a month was settled and the men returned to work July 7. An 8 hr. day and an increase of approximately 10% in wages was granted. Work on the two steel steamships under construction for the British Government was considerably delayed. The second of the 2 steel cargo steamships of 3,500 tons d.w. which this company is building under orders from the Imperial Munitions Board for the British Government, was launched July 26, and named War Vixen. The other vessel, the s.s. War Magic, was launched Mar. 3, and is nearing completion.

Polson Iron Works, Ltd., Toronto—The s.s. War Algoma, built at this yard for the British Government under order of the Imperial Munitions Board, was launched July 23. This is the fifth of the 6 steel cargo steamships of 3,500 tons d.w. each built by this company under the Imperial Munitions Board's order. She is of the following dimensions: Length overall, 261 ft.; length b.p., 251 ft.; beam, 32½ ft.; depth moulded, 22½ ft., and she is equipped with triple expansion, surface condensing engine of approximately 1,256 h.p. The first of these vessels, War Taurus, was launched Sept. 19, 1918; the War Hydra, Oct. 15, 1918; War Hamilton, Dec. 22, 1918; and War Timiskaming, Feb. 8,

1919. The last of these vessels is to be named War Halton, and it is expected she will be launched shortly, thus completing the orders with this company for British Government vessels.

Steamship Companies' Bond Issues

The Bishop Navigation Co. Ltd., offered to the public recently, an issue of \$1,000,000 of 6% mortgage serial gold bonds. The company was incorporated recently with authorized capital of \$1,500,000 common stock, of which \$1,428,000 has been issued. The head office is at Montreal, and most of those concerned in the company are associated with the Montreal Transportation Co., Halifax Shipyards Ltd., and Canada Steamship Lines Ltd. The bonds will be redeemable at the company's option, in whole or in part, on any interest date, at 102½ and accrued interest, on 90 days' previous notice. The bonds, which are in denominations of \$1,000 and \$500, may be registered as to principal and bear interest coupons payable half yearly. The schedule of maturities is so arranged that all will yield 6¼%.

The President of the company, R. M. Wolvin, has issued the following statement: "The Bishop Navigation Co. Ltd. was incorporated under Dominion charter, Jan. 20, 1919, and owns and operates the s.s. Ivor Heath, a steel, twin screw freight steamer, 469½ ft. long, 56¼ ft. beam and 34 ft. 10 in. deep, total deadweight capacity 11,400 tons, and with a speed of about 12 to 13 knots per hour. The rebuilding of this ship is nearing completion, and when ready for sea, she will have the highest classification of Lloyd's Register. The bonds are a closed mortgage on all the company's assets, and particularly on the s.s. Ivor Heath. The Canadian Appraisal Co. values this vessel when rebuilt at \$2,109,000. Insurance for not less than 150% of the outstanding bonds will be carried. Based on the present ocean freight rates and probable freight rates for the six months following the completion of the rebuilding of the steamship the company's gross earnings should be approximately \$750,000. The net earnings for the six months period should be sufficient to provide three times for the redemption of the first maturity, together with interest on the whole bond issue for 12 months."

The Canadian Appraisal Co.'s certificate states that the ship was built in 1901, and is twin screw, with triple expansion engines, 5 boilers, and holds the classification on Lloyd's Register. The ship (formerly the s.s. Lake Manitoba, owned by Canadian Pacific Ocean Services Ltd.) was burned and sank in the St. Lawrence River in Sept., 1918, after which she was purchased and taken to Halifax, where extensive alterations and repairs were undertaken by Halifax Shipyards Ltd., under the supervision of Lloyd's surveyor, and it is expected that the work will be completed during August.

The company's officers are: President, R. M. Wolvin, President, Montreal Transportation Co., Managing Director, Halifax Shipyards Ltd., and Director, Dominion Steel Corporation; Vice President, F. H. Markey, K.C., Montreal; Managing Director, H. W. Brown, New York, formerly Managing Director, Canada West Coast Navigation Co., Vancouver, B.C.; other directors, J. W. Norcross, President and Managing Director,

Canada Steamship Lines Ltd., and President, Halifax Shipyards Ltd.; F. S. Isard, Director of Finance, Canada Steamship Lines Ltd.; Secretary, T. R. Enderby, Secretary-Treasurer, Montreal Transportation Co.

Another bond issue will, it is said, be placed on the market shortly for \$300,000, but the Trans-Atlantic Co. of Canada Ltd., Montreal, with which some of the same interests are concerned. The company acquired the s.s. Mariska from the Bassett Steamship Co., Toronto, recently, and has an authorized capital of \$1,000,000, of which \$700,000 has been issued. The ship has been valued by the Canadian Appraisal Co. at \$880,000. The s.s. Mariska is a steel vessel, with double bottom for watertight ballast, steel boiler house, 3 watertight, and 2 nonwatertight bulkheads, with hatches spaced 24 ft. centers, and with complete electric lighting equipment. She was built at Cleveland, Ohio, in 1890, and is of the following dimensions: Length b.p., 291 ft.; breadth moulded, 40 ft.; depth moulded, 22 ft.; tonnage, 2,502 gross, 1,875 net. She is equipped with triple expansion engine, with cylinders 24½, 38 and 61 in. diam., by 42 in. stroke, 1,200 i.h.p. at 80 r.p.m., supplied with steam by 2 Scotch boilers, 14 by 12½ ft. at 160 lb. She was bought by the Bassett Steamship Co., Toronto, in 1914, from the Pittsburg Steamship Co.

British Government's Coastwise Shipping Policy Will Relieve North Atlantic Freight Situation.

A London, Eng. copyright cablegram, of July 23, to the Toronto Globe says: Traders whose business is suffering from the prevailing deficiency of shipping will benefit by a new government measure to reduce the congestion in British ports. In future all heavy, bulky cargoes consigned through ports where congestion is extreme to destinations capable of being served more readily through other ports, will be transferred to coastwise steamships as a matter of course. Hitherto coasting freighters have been unable to compete on a commercial basis with the low rates offered by state-controlled railways. Under the new arrangements the difference between rail and steamship rates is to be charged against the railways.

This practically amounts to subsidizing coastwise shipping. Commander Fisher, General Manager, Atlantic Lines Canadian Pacific Ocean Services, Ltd., thinks this measure should be advantageous to both the Canadian trader and the British consumer. At present there is at least 25% more shipping in the North Atlantic than would be required for the same amount of freight if the ports were working perfectly. Such abolition of port delays would increase the voyage capacity of these vessels, and also tend to reduce freight rates, with the result that more goods could be brought over, and at lower prices to the consumer, thus benefitting the Canadian exporter and doubly benefitting the British consumer. Commander Fisher considers, however, the success of the measure depends considerably upon whether the rate offered to coastwise shipmasters is sufficiently high to attract them back from the very profitable French coal trade, in which many are now engaged, for it is this, besides depredations of enemy submarines, which has so reduced the number of vessels plying in the old coasting trade.

Wreck Commissioner's Enquiries and Judgments.

Enquiries have been held and judgments delivered in connection with the following casualties:—

Corcoran-Champion Collision.

Held at Quebec, Que., June 30, before Capt. A. L. Demers, Dominion Wreck Commissioner, assisted by Cpts. C. Lapierre and L. R. Demers as nautical assessors, into the collision between the s.s. Corcoran and the s.s. Champion on June 26, near Levis drydock in the River St. Lawrence. The court found that the s.s. Champion was alone to blame for the collision and suspended the certificate of the master, Capt. D. Lemay for six months, and also suspended the certificate of the mate, A. Gagne, for three months, both dating from July 16.

Henry B. Hall—Keyport Collision.

Held at Montreal, July 2, before Capt. L. A. Demers, Dominion Wreck Commissioner, assisted by Cpts. C. Lapierre and N. McKay, as nautical assessors into the collision between the s.s. Henry B. Hall and s.s. Keyport in the Soulanges Canal, Apr. 30. The court found that in view of the circumstances attending the casualty, the mates of both vessels were in default, the mate of the s.s. Keyport in a lesser degree, and it therefore suspended the certificate of P. Dusault, mate of the s.s. Henry B. Hall, for 2 months from date of the certificate's delivery to the court. The certificate of F. Proteau, mate of the s.s. Keyport, was not dealt with, but he was reprimanded for not having called the master, and for not sending an alarm signal, instead of acquiescing in the Henry B. Hall's signals. Masters of both vessels, Capt. H. Mallette, of the s.s. Henry B. Hall, and Capt. J. Mullen, of the s.s. Keyport, were reprimanded, not for taking rest, but for failing to give specific directions or instructions to their officers to call them when danger was apprehended.

Stranding of the s.s. Caddo.

Held at Montreal, July 21, before Capt. L. A. Demers, Dominion Wreck Commissioner, assisted by Cpts. C. Lapierre and C. J. Stuart, as nautical assessors, into the stranding of the s.s. Caddo near Basque Island in the River St. Lawrence, June 15. The court found that the casualty was due to the fact that pilot P. Lachance, of the Quebec Pilotage district, did not adopt the precautionary measures which the circumstances demanded, the weather being thick. The pilot's evidence was honest and straightforward and no attempt was made to lead the court astray, and it was, therefore, not considered necessary to call other witnesses. The pilot, in his 34 years of service, has had but one minor accident prior to this, and in this case the vessel was undamaged and no delay was caused. For this reason the court did not deal with his license, but reprimanded him severely, for lack of attention to elementary precautions in keeping speed, and failing to note the intervals of time for shaping each course. It further ordered him to pay the costs of the investigation and cautioned him to exercise prudence in future.

With respect to the master who holds a U.S. license, the court has always held the view that in thick weather, the master is expected to be on the bridge. He also gave straightforward evidence as to his actions, but had the vessel suffered any damage he would have stood in a more serious light. The court cau-

tioned him not to forget the grave responsibility which rests on him as master of a vessel.

The Cost of United States Ships.

Canadian Railway and Marine World for July reproduced a letter from E. N. Hurley, chairman U.S. Shipping Board, to the chairman of the House of Representatives appropriations committee, at which an attempt was made to show that the steamships built by the board cost only \$180 a ton, an attempt which we characterized as "certainly ingenious." The Marine News, New York, states a similar view and says:—

"Chairman Hurley, of the U.S. Shipping Board, has become very adept in the juggling of figures. Apparently he has learned a good deal during his incumbency in the Shipping Board as to 'window dressing' for the benefit of placating a very disgruntled Congress. In a communication to the Chairman of the house committee on appropriations, Mr. Hurley resorts to the 9th degree of statistical presentation as to shipbuilding costs under the regime and management of the U.S. Shipping Board and Emergency Fleet Corporation. He figures that some shipbuilders have paid \$40 a deadweight ton to the U.S. Treasury in the form of income and excess profits taxes. Other shipbuilders have paid \$30 a ton. He figures an average tax return of \$25 a deadweight ton. He applies this \$25 a d.w. ton to 13,885,106 d.w. tons building and figures that the shipbuilders have returned to the government \$347,127,650. He subtracts this amount from \$2,861,756,570 the actual cost of the ships, which leaves 2,514,527,920 or \$180 a d.w. ton as the actual cost to the government of the vessels built and building.

"This is a most remarkable presentation of shipbuilding costs. We doubt if Congress will absorb this explanation without a grain of salt. Mr. Hurley has apparently formed the belief that any explanation will suffice to convince Congress that additional funds are needed for the completion of the ship construction programme. He actually asks for \$673,368,301. No doubt this additional money is needed and no doubt Congress will eventually grant additional funds, but we are of the belief that Mr. Hurley is not using the proper methods to get such funds. Congress rebels when it feels that it is being bamboozled and it is very plain that Mr. Hurley's juggling of shipbuilding costs figures is nothing but an effort to bamboozle Congress, a very plain, inept and clumsy effort to convince a very sharp visioned Congress."

United States Schoolship Newport—

The Dominion Government passed an order in council recently consenting to a cruise up the St. Lawrence River and Welland Canal of the U.S. schoolship Newport, provided that it is not intended to retain her on the Great Lakes and that she is to return to the Atlantic Coast before the close of navigation. The schoolship Newport is lent to the New York National State Nautical School by the U.S. Government, is 168 ft. long, of 1,010 tons displacement, and is armed, for the purpose of drilling the cadets, with two 3-inch and one 4-inch rifles.

The supplementary estimates for the year ending Mar. 31, 1920, passed at the Dominion Parliament's recent session, provide \$200,000 for the Port Maitland pier.

Revision of Dominion Government's Contract for Steel Plates for Shipbuilding.

Vancouver Harbor Commission.

It is announced from Vancouver that at the Marine Department's request the members of the Vancouver Harbor Commission: F. Carter Cotton, J. A. Fullerton, and S. McClay, have resigned. It is stated that there will be a complete reorganization of the harbor commission. The act by which the commission was created provides that the commissioners must be appointed by the Governor General in council upon the recommendation of the Minister of Marine, and that they hold office during pleasure. The remuneration is fixed at \$1,500 each with \$2,000 for the chairman, but this may be changed by order in council and it is reported that the salaries will be raised to be more in accordance with those paid at other ports.

The Dominion Parliament has passed an act providing that the Governor General in council may advance to the Vancouver Harbor Commissioners, from time to time, sums, not exceeding in the whole \$5,000,000, to enable them to carry on the construction of works and terminal facilities deemed necessary for the development and equipment of the harbor. Before any work is commenced, for which such advances may be required, plans, specifications and estimates must be submitted for approval, and applications for advances to cover the cost for such work are to be made monthly while the work is in progress, and as each advance is made, the commissioners are to deposit with the government, 25 year, 5% debentures, secured on the harbor revenues, and ranking next after all debentures and bonds, heretofore issued by the commissioners.

Shipbuilders' Wages in British Columbia.

A recent report made by the wage adjuster appointed to act in connection with the shipbuilding trades disputes in British Columbia, states that it is found that the cost of living in Victoria, Vancouver and New Westminster combined, for February, was \$21.357 a week, and for May, \$22.052 a week, an increase of \$0.695 or 70c a week. This works out, for a 44 hr. week at 1.6c an hour. As it is stated the foregoing figures do not include the necessities of life, a further investigation was made into the prices of clothing and other necessities, and it was considered that the increases would be met by an addition of 1.1c an hour to the wages, which in addition to the 1.6c already mentioned, makes a total of 2¾c an hour increase to all employes, and it was recommended that such increase be made effective June 1.

What is known as the Robertson agreement, providing for quarterly wage adjustments in the province, became effective June 1, 1918 and provides for increases in wages quarterly, to keep pace with the increased cost of living, if any. The first quarter brought an increase in wages of 2c an hour, the second quarter an additional 2¾c an hour, the third quarter an additional 2c an hour, and the fourth quarter an additional 2¾c an hour.

British Government War Risk Insurance—Sir Auckland Geddes, Minister of National Service and Reconstruction, stated in the British House of Commons July 18, that the government had made a profit of £16,000,000 from premiums on war risk insurance of shipping.

ship plate, after the mill has run for six months, turning out the plate, the price of the plate will be determined on the fluctuating price for steel ingots, based on a price of \$25.50 a ton. We were also able to arrange with the company, also with a great deal of reluctance on its part, that no matter how high the price of steel ingots goes, in no event will the price of steel plate cost the government any higher price than \$4.25 per 100 lb. If the price of steel ingot drops over a period of six months, the price of plate will be lowered accordingly. We are not going to take the company's say-so as to what its cost may be. It is provided in the contract that the government shall send expert accountants, whom we shall name, to go over the company's books and costs, and if the price of steel ingots has fallen during the period of six months they will see to it that the government gets a proportionate reduction in the price of steel plates. Those are the essential points in the contract into which we are about to enter. The further particulars will be known when the order in council is laid upon the table.

"There is another clause in the contract into which we are about to enter, viz., that on all the plant and machinery that the Dominion Iron & Steel Co. will require to import into Canada for the ship plate mill it will pay duty, and that duty will afterwards be refunded. The government is making only two concessions: first, we are guaranteeing 250,000 tonnage for five years and secondly, we are remitting the duty on the machinery and material the company will require to bring in for its mill. In order that the ships which the government is ordering shall not cost too much money, I am happy to be able to say that through the splendid support of the British and Canadian War Missions at Washington, and through the generosity of the U. S. Government, we have been able to buy 80,000 tons of steel plate in the U. S. on very favorable terms, at a price as low as the U. S. shipbuilders are paying. This amount will keep our plants operating during the balance of 1918 and during the whole of 1919, so that our supply of steel plate is assured until such a time as Canada is able to roll her own plate."

After the armistice was signed the price of steel plates commenced to drop and the Minister negotiated with the Dominion Iron & Steel Co. for a modification of the contract. On July 11, 1919, he announced in Montreal, that he had arranged with the company to reduce the price from \$4.15 to \$3.65 per 100 lb. It apparently is not expected that all the plates ordered will be required by the government for shipbuilding, and it is said that efforts are being made to have some of them used for locomotive building, and other purposes, for the Canadian National Rys.

Union Navigation Co. Ltd., has been incorporated under the Dominion Companies Act, with \$50,000 authorized capital, and office at Montreal, to own and operate steam and other vessels, wharves, docks and other navigation facilities, and to carry on a general navigation, carrying and forwarding business.

Early in 1918 the Dominion Government gave the Dominion Iron and Steel Co., Sydney, N. S., a contract for 250,000 tons of steel plates, to be used in building steamships under the government's shipbuilding programme, the contract being explained by the Minister of Marine in the House of Commons, Apr. 4, 1918, as follows:

"The Dominion Government has guaranteed to the company that it will have a minimum tonnage of 50,000 tons of ship plates a year, extending over five years, making in all a total of 250,000 tons. The price per 100 lb. for the moment is \$4.15. The safeguarding of the public interest, so far as the price is concerned, from time to time, has been arranged on the following basis: Ship plates are made from steel ingots which, in turn, are made from pig iron, the pig iron being produced from iron ore. The Dominion Iron and Steel Co. owns and operates within British territory facilities to produce all the raw materials that I have just mentioned as being required for the rolling of ship's plates. We have taken, as a basis to adjust this price every six months, the price per ton of steel ingots. The price at the time the contract was entered into for steel ingots was \$25.50 a ton. The price of plates to start with is \$4.15 per 100 lb., based on an ingot price of \$25.50 a ton. These prices were agreed upon after long weeks of negotiation, and I was accused, in a friendly way perhaps, by President Workman, of the Dominion Iron & Steel Co., of driving too hard a bargain on behalf of the people of Canada. I do not think that is exactly so, because I consider the contract we have entered into is eminently fair to the company as it is also fair to Canada. The mill will take about 15 months to be erected, and Mr. Workman estimates that it will cost about \$5,000,000. The government does not put up one cent of money for the erection of this mill. The government was pressed to advance this money, but I declined to make such a recommendation to my colleagues, because I considered that the Dominion Iron & Steel Co. is strong enough to put up the \$5,000,000 required for the plant, and I, therefore, recommended to my colleagues that we do not advance the money. Accordingly, the company is going to erect this plant at its own cost.

"The company claims that within 12 to 15 months it will be turning out all the ship plates that Canada may require. The company estimates that the capacity of the mill will be 150,000 tons of plate a year. In addition to ship plate, it is estimated that there are about 50,000 tons of other plate, such as boiler plate, used in Canada yearly. There is no duty on boiler plate, nor on ship plate. This mill will be a new national industry for Canada, and not only will it turn out the ship plates which we shall require here, and which, I think, even the existing yards we have, will run something like 75,000 tons a year, but there is no reason why the Dominion Iron & Steel Co. should not be able to get orders for, if not the whole, at least a part of the 50,000 tons of plate used for other purposes than for ships.

"To follow along the policy of safeguarding the public interest so that we shall not be paying too much for the

Contracts Let for Marine Public Works.

The Dominion Public Works Department has awarded the following contracts:

Cobourg, Ont.—Dredging. Contractors: Ottawa Contractors, Ltd., Ottawa, at 27c a cubic yard, scow measurement (approximate quantity of material, 57,000 cubic yards).

Port Arthur, Ont.—Repairs to temporary pile protection breakwater. Contractors: Barnett-McQueen Co., Port Arthur, at \$8,319 (unit prices).

Port William, Ont.—Construction of breakwater is Mission Channel entrance. Contractors: Port Arthur Construction Co., Toronto, at 5381,000 (unit prices).

Richmond, Que.—Ice-breakers. Contractor: P. Charleson, Ottawa, at \$10,407 (unit prices).

Bayfield, Ont.—Construction of retaining wall. Contractor: J. C. Bogie, Goderich, Ont., at \$3,568.30 (unit prices).

Magog, Que.—Wharf. Contractor: T. P. Charleson, Ottawa, at \$19,924.75 (unit prices).

Devil's Island, N.S.—Repairs to breakwater. Contractors: M. C. Denton and M. A. Condon, of Digby, N.S., at \$11,446.15 (unit prices).

Bayfield, Ont.—Construction of retaining wall. Contractor: James C. Bogie of Goderich, Ont., at \$3,568.30 (unit prices).

Magog, Que.—Wharf. Contractor: Thos. P. Charleson, of Ottawa, at \$19,924.75 (unit prices).

Cobourg, Ont.—Dredging. Contractors: Ottawa Contractors, Ottawa, at 27c a cubic yard, scow measurement (approximate quantity of material, 57,000 cubic yards).

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Port William, Ont.—Construction of breakwater in Mission Channel entrance. Contractors: Port Arthur Construction Co., of Toronto, at \$381,000 (unit prices).

Richmond, Que.—Ice-breakers. Contractor: T. P. Charleson, Ottawa, at \$10,407 (unit prices).

St. Ignace de Loyola (Nord), Que.—

Reconstruction of wharf and approach. Contractor: Onesime Poliquin, Portneuf, Que., at \$3,768.25 (unit prices).

Spry Bal, N.S.—Wharf extension. Contractors: A. W. Girrior and W. F. MacKinnon, Antigonish, N.S., at \$3,981 (unit prices).

Gross Isle, Que., Quarantine Station—Operating house in connection with radiotelegraph station. Contractor: Delphe Maranda, Quebec, at \$2,340.

Port Arthur (Bare Point), Ont.—Breakwater extension. Contractors: Chambers, McQuigge & McCaffrey Co., Toronto, at \$684,000 (unit price).

Dredges P.W.D. no 110 and P.W.D. no. 116—Supply of dipper arms. Contractors: M. Beatty & Sons, Welland, Ont., at \$11,535.

Port Colborne, Ont.—Repairs to breakwater. Contractor: J. M. Hogan, Port Colborne, at \$34,325 (unit prices).

Burlington Channel, Ont.—Repairs to South Pier. Contractors: Ottawa Contractors, Ltd., Ottawa, at \$27,940 (unit prices).

Shortage of Tonnage for St. Lawrence Coal Shipments.

Some information was given in Canadian Railway and Marine World for July as to steps being taken to urge on the British Ministry of Shipping the necessity for the early release of vessels, used formerly in the St. Lawrence coal trade, and which were requisitioned by the British Government for war purposes. In the House of Commons, July 1, the Prime Minister stated that in response to a telegram he had sent to the High Commissioner in London, Eng., he had received a reply to the effect that an announcement made in the British House of Commons on behalf of the Shipping Controller regarding the non-return of coal ships chartered by the Dominion Coal Co., was that all vessels except one, which were, prior to requisition, time chartered to the Dominion Coal Co., are owned in the United Kingdom, and these charters are private contracts between the owners and charterers and are matters with which the Shipping Controller is in no way concerned. During last winter it became necessary as part of the general allied food pro-

gramme, to send several of these vessels, as well as a large number of other requisitioned vessels, to load wheat in Australia for Europe, for which trade the size of the vessels made them particularly suitable. The owners were not consulted in this matter, not even informed of it, until the order was issued to the vessels by the Shipping Controller. The suggestion as to the steps taken being due to any desire on the part of the Shipping Controller to assist owners in avoiding completion of contracts was entirely without foundation. Of 5 vessels in which the Dominion Coal Co. is interested, 3 have been released from requisition, and the remaining 2 have been offered release as soon as the present cargoes have been discharged.

The Dominion Government Takes Over St. John Harbor.

Following on the government's decision that the St. John harbor should be taken over as a public harbor, the Dominion Parliament has passed an act transferring the property and rights from the City of St. John, N.B., to the government, and placing it under the control of the St. John Harbor Commissioners. The St. John charter, giving the city certain rights and powers over the harbor, was granted in 1785. The harbor boundaries are as follows:—The northerly limit is a line drawn due northeast from the middle of the government lighthouse tower on the westerly bank of the St. John River, at Green Head, to the easterly bank of the river; the southerly and westerly limits are, beginning at the intersection with high water mark of the westerly face of the government breakwater at Negro Point, thence due south 4,450 ft., to an intersection with a line drawn due southwest from the middle of the government lighthouse tower on Partridge Island, thence due east 6,000 ft. to an intersection with a line drawn due southwest from where the easterly boundary of the military grounds at Red Head cuts high water mark, and thence due northeast 9,000 ft. to high water mark.

Three commissioners are to be appointed by the Dominion Government, and two shall form a quorum, and a quorum may act regardless of a possible vacancy in the commission, and their remuneration is to be paid out of the harbor revenues, the amounts to be fixed by the government. The commission is to appoint harbor officials, and will have jurisdiction over all the property and privileges transferred from the city to the government, and it may own and operate vessels, plant and machinery which it may deem necessary for the efficient discharge of its duties.

The consideration to be paid for the property taken over is \$2,000,000, made up as follows: \$1,342,717.55, representing the bonded indebtedness of the city in connection with harbor development, taken over by the commission, which will pay interest on the bonds, and the principal of the bonds as they mature; and the balance, \$657,282.45 to be paid to the city in harbor commissioners' debentures, bearing interest at 5% a year and repayable in 25 years.

The elevator, wharves and other property in the harbor, already government property, shall be subject to the commissioners' jurisdiction, and they are to pay to the government, 3½% a year on the cost of construction.

Sault Ste. Marie Canals Traffic.

The following commerce passed through the Sault Ste. Marie Canals during June, 1919:

ARTICLES.	Eastbound.			
	m. ft. b. m.	Can. Canal.	U.S. Canal.	Total.
Lumber.....	39,731	1,243		40,974
Flour.....	611,020	420,510		1,031,530
Wheat.....	3,138,698	3,263,353		6,402,051
Grain, other than wheat.....	3,606,387	3,088,514		6,694,901
Copper.....	7,114	910		8,024
Iron Ore.....	7,788,279	216,618		8,004,897
Pig Iron.....		75		75
Stone.....	340	4,830		5,170
General Merchandise.....	4,476	3,276		7,752
Passengers.....	496	3,338		3,834
	Westbound.			
Coal, soft.....	2,211,284	55,700		2,266,984
Coal, hard.....	227,200			227,200
Iron Ore.....	20,732			20,732
Mfd. Iron and Steel.....	9,404	2,348		11,752
Salt.....	8,825	1,155		9,980
Oil.....	56,840			56,840
Stone.....	13,429			13,429
General Merchandise.....	32,033	25,487		57,520
Passengers.....	1,029	3,303		4,332
	Summary.			
Vessel passages.....	2,154	656		2,810
Registered tonnage.....	7,040,813	943,932		7,984,745
Freight—				
Eastbound.....	Short tons	8,117,450	437,529	8,554,979
Westbound.....	Short tons	2,579,747	84,690	2,664,437
Total Freight.....	Short tons	10,697,197	522,219	11,219,416

Atlantic and Pacific Ocean Marine.

The s. s. Curacoa, which was damaged and sunk in the Halifax explosion in Dec., 1917, and which was salvaged from the Dartmouth shore, has completed repairs at New York and is again ready for ocean service.

The s. s. Nascopie, which arrived at St. John's, Nfld., about the middle of July, from Hull, Eng., took on lumber and general cargo, for the first trip of the season to Hudson Bay ports for the Hudson's Bay Co.

The London, Eng. Salvage Association offered for sale by tender recently, through its Halifax, N. S. office, the s. s. Appenine, 3,684 gross tons, as she lay stranded at Witness Point, 24 miles south of St. John's, Nfld.

The Maple Leaf Line will, it is stated, resume its steamship service between Vancouver, B. C. and New York, via the Panama Canal, early in October. This service was interrupted by the war, but will now be increased, some standard steel steamships of 9,680 d.w. tons having been acquired.

The British s. s. Onwen was towed into St. John's, Nfld., July 12, with only one blade left on her propeller and her steering gear out of order, having been damaged in a severe storm, July 8. She is owned in Cardiff, Wales, and sailed from Ardrossan, Scotland, June 27, to load lumber at Campbellton, N. B.

La Cie. Canadienne Trans-Atlantic Ltee., has announced that the steamships California and Hudson will sail from Montreal, August 9, in a passenger service to Havre, France. Up to the present the company, which is represented in Canada by Canada Steamship Lines, Ltd., has confined its operations to the freight business.

Canadian Pacific Ocean Services' s. s. Grampian, while bound from Montreal to Liverpool, Eng., July 9, collided, head on, with an iceberg, off Cape Race. Two members of the crew were killed and two were injured. The bow was considerably damaged above the water line, and she immediately proceeded to St. John's, Nfld., where repairs were made, the passengers being transferred to another vessel. She sailed again from St. John, July 21, for Liverpool.

The Head Line s.s. Ballagally Head arrived at Montreal, July 17, on her maiden trip from Belfast, Ireland. At a luncheon given on board, W. R. Eakin, Vice President and Managing Director, McLean Kennedy, Ltd. Canadian agents of the line, stated that more vessels of the same type would soon be in the company's service for the Canadian trade, to replace those lost during the war. He said that the Head Line had 17 vessels in operation at the outbreak of war, and now had only 5. A sister vessel of the Ballagally Head was launched at Belfast, Ireland, early in July, and two slips have been reserved at Belfast for further similar construction.

Royal Pilotage Commission. The estimates for the year ending March 31, 1920, passed by the Dominion Parliament at its recent session, contain the following items: \$5,000 for chairman, and \$2,000 each for commissioners, of the Royal Pilotage Commission, total \$11,000. Also honorarium to J. T. Brown, for special services rendered royal commission on pilotage and vessel traffic regulations, \$350.

Maritime Provinces and Newfoundland.

The Canadian Transport & Fishing Co. has deposited plans and description of site for a wharf to be built on the Bay Chaleur at New Mills, N. B.

The s. s. Princess, purchased by J. A. Farquhar & Co., Halifax, N. S., has been placed in service between Halifax and the west coast of Newfoundland, she is in charge of Capt. R. D. Burns, with J. H. Gunn as chief engineer.

The Dominion Steel Corporation's s.s. Maskinonge collided with an iceberg at the end of June while en route from Sydney, N.S., to Wabana, Nfld. She put back to Sydney with a broken hawse pipe and some damage to her starboard bow.

The s.s. Fern, which was beached at Knights Cove Point, Nfld., towards the end of June, after being caught in ice near Cape Bonavista, was floated and taken to St. John's, Nfld., at the end of the month, for repairs. She was bound from Mobile, Ala., for Rotterdam, with a cargo of pitch pine.

The Eastern Steamship Corporation's s. s. Northland, which completed her repairs recently after grounding at West Island, Buzzards Bay, when bound from New York to Boston, has been put on the St. John, N. B., route, taking the place of the s. s. Governor Dingley, withdrawn for repairs.

The Maritime Wrecking and Salvage Co's tug, Sarnia City and s. s. Maggie Marshall towed the wrecked steamship Troja into Halifax, July 15, where she is to be overhauled and repaired by Halifax Shipyards, Ltd. The s. s. Troja was wrecked on the Old Proprietor Ledge in the Bay of Fundy, Mar. 18, and was refloated at the end of May. The hull is reported to be badly damaged, but the machinery is said to be intact.

The Richmond Steamship Co.'s s.s. Richmond was wrecked during a storm, at the end of June, on Bear Island, near Point Tupper in the Strait of Canso, and is stated to be a total loss. She was built at Sydney, N.S., in 1905, her dimensions being, length, 112.5 ft.; breadth, 18 ft.; depth, 8.3 ft.; tonnage, 162 gross, 105 register, and she is equipped with an engine of 20 n.h.p., driving a screw. She has a cargo capacity of 75 tons, and accommodation for 100 passengers. She had been operated for some years on a Dominion Government subsidized service between Port Mulgrave, St. Peters, Irish Cove, Marble Mountain and other ports on Bras d'Or Lake, making two round trips each week, for a payment of \$6,500 a year. She was reported to have been refloated during July.

Shipbuilding in China—Considerable shipbuilding is reported to be in progress in Shanghai, where several vessels are under construction for other countries. It is stated that 4 steamships of 10,000 tons each are being built there for the U.S., and it is expected that a further order for 8 similar ships is to be placed there shortly. Four standard steel steamships of 5,000 tons each are also under construction for undisclosed interests, and another 4 ships are being built for Norway.

Donald Shipping Co. Ltd., has been granted supplementary letters patent increasing its capital stock from \$30,000 to \$36,000.

Province of Quebec Marine.

The Cunard Steamship Co's monthly meeting of officials in North America was held in Montreal, July 9, this it is said being the first of such meetings to be held outside New York. At the conclusion of business they were entertained by the Montreal Harbor Commissioners, with a trip round the harbor in the steam tug, Sir Hugh Allan, and a dinner at the Windsor Hotel.

The s.s. Oceanica, a wooden steamship, owned by the Acme Corporation, of New York, was damaged by fire in Montreal harbor, July 2. About ten years ago, the ship changed hands for \$4,000, and a few years later, again changed, the price paid for her being \$40,000, while in the latter part of 1918, she was acquired by the present owners for \$100,000. It was the intention to overhaul her and place her in the lake and river service.

The wreck of the Marine Department's s.s. Montmagny which was sunk in collision off the Isle of Orleans in 1916 by the s.s. Lingan is reported to have been sold to G. Dussault Co., Ltd., Levis, Que., which company is associated with the National Shipbuilding Co. The work of raising the wreck was commenced at the end of June, 5 cables having been attached, and it was expected that she would be raised about the middle of July. She was built at Sorel, Que., in 1909, her dimensions being, length 212.6 ft., breadth, 34.8 ft., depth, 19.5 ft., tonnage, 1,269 gross, 723 registered, and she is equipped with engine of 148 n.h.p. driving a screw.

Ontario and the Great Lakes.

The s. s. Turbinia, which, as mentioned in our last issue, was offered for sale by public auction in England, June 17, as she lay at Southampton, was not sold, and we are officially advised she has been taken off the market.

The Brockville and Morristown Transportation Co., is reported to have sold the ferry steamboat John Webster, which it has been operating between Brockville and Morristown, to a firm of contractors in Erie, Pa.

The s.s. Sir Thomas Shaughnessy, owned by Jenkins Steamship Co., Cleveland, Ohio, while downbound with ore, ran ashore at Windmill Point in the Detroit River, at the end of June. She was released after having part of her cargo lightered, with comparatively little damage.

The U.S. Lighthouse Service has established a temporary light, fixed red, 15 c.p., 16 ft. above water, on the channel side of the framework of the tower, and 12 ft. above the base of the tower, at Huron harbor, on the south side of Lake Erie. This light is to be maintained until a permanent light is established.

On account of the falling into the river of high banks, the shoal extending from the south side of the Kaminstiwiwa River at the lower end of the Westfort turning basin, Fort William, has increased in length and the black spar buoy used to mark the shoal has been moved 300 ft. eastward, to mark the new extremity of the shoal.

The contract for the extension to the breakwater at Bare Point, Port Arthur, is reported to have been awarded, by the Dominion Public Works Department, to Chambers, McQuigge and McCaffrey,

who, it is said, will also build the revetment wall at the mouth of the Mission River, Fort William, the pile driving for which will be done by the Thunder Bay Contracting Co.

The U. S. Lake Survey reports the levels of the Great Lakes in feet above mean sea level for June as follows: Superior 602.45; Michigan and Huron, 581.50; St. Clair 576.45; Erie 573.77; Ontario 247.95. Compared with the average June levels for the past ten years, Superior was 0.24 ft. above; Michigan and Huron 0.68 ft. above; Erie 0.92 ft. above; and Ontario 1.06 ft. above.

The Windsor and Detroit city councils held a joint meeting, July 10, to consider a plan for the operation of an all night ferry service between the two cities. The automobile traffic is stated to have been so heavy recently, that many people are compelled to stay on one or the other side of the river overnight, through the ferries not being able to handle the traffic in the schedule hours.

Canada Steamship Lines' barge Dundurn, in tow of the tug Home Rule, foundered and sank just outside the outer breakwater at Ashtabula, Ohio, July 15, during a heavy storm, two of the crew being lost. The Dundurn was formerly a steamboat named Pere Marquette II, and was built at Detroit, Mich. in 1882. Her dimensions were, length 196.3 ft., breadth 30.3 ft., depth 12 ft.; 472 tons register.

The U.S. Government has decided to widen the Grosse Pointe channel to permit vessels of deep draft to pass more easily. Tenders have been received by the U.S. Engineering Department for dredging and other work connecting therewith. The specifications include the removal of approximately 1,250,000 cub. yds. When the dredging is completed it is expected a depth of 21 ft. at low water will be obtained, with a bottom width of 800 ft. between the established channel lines.

The s.s. Mariska, owned formerly by the Basset Steamship Co., Toronto, and operated in the Great Lakes trade, but recently acquired by the Trans-Atlantic Steamship Co., Montreal, has been remodelled and equipped for ocean service by Halifax Shipyards, Ltd., Halifax, N.S. The deck construction has been changed and an additional deck has been erected aft. The bridge, which was somewhat forward, has been set back aft of midships and the crew's quarters have also been moved aft.

During 1918, 2,887 vessels passed through the Welland Canal, of which 1,318 were upbound, and 1,569 downbound. These figures do not include regular canal tugs, small craft, nor vessels which entered the canal at Port Colborne and discharged cargoes at Welland and returned to Lake Erie. There were 216 new vessels sent through the canal for Atlantic service, and 17 vessels which had been operated on the lakes previously, passed through the canal in sections to the coast.

Owing to target practice taking place from sunrise to sunset at the government rifle ranges at Long Branch, six miles west of the western entrance to Toronto harbor, mariners are warned that they must keep at least 8,000 ft. out from the shore, when passing the ranges, and under no circumstances must they enter the danger area, which is marked by red barrel buoys, with the word "Danger," on the top and, "rifle ranges," on the ends.

The target practice will continue until Oct. 15.

British Columbia and Pacific Coast

A Vancouver press report states that private advices received from Ottawa indicate that the Dominion Government dry dock will be located at Victoria.

The Coast Island range lights, at the entrance to Prince Rupert Harbor, are being discontinued, and the lights moved to new positions, one on the northeastern point of Kinahan Island, and one on the northwestern point of Genn Island.

The Clayoquot Sound Canning Co. is suing the C.P.R. in the British Columbia Admiralty Court for \$6,000, claimed to be due for salvage services rendered to the s.s. Princess Adelaide by the auxiliary schooner Iskum, when the former vessel went ashore at Georgina Point, in Active Pass, Oct. 13, 1918.

The Marine Department announces the reporting of an uncharted rock off the northeast side of Nigei Island, in the new channel in Queen Charlotte Sound. It is seven cable lengths from the northeast shore of the island and 2 miles southeast of Greeting Point. Another uncharted rock is reported 450 ft. northwestward from the northwest extreme of McCreight Island, Buckley Bay, Masset Inlet, Queen Charlotte Islands.

Freight Steamship Requisitioning by British Government.

A London, Eng. copyright cablegram of July 22 to the Toronto Globe says: It is anticipated in well informed shipping circles that the government freight requisition for August will be 35 per cent. This is a reduction of 5 per cent. only, as against 10 per cent. for July. It applies to eastward voyages from North America to the United Kingdom. While the gradual whittling down of government control gives satisfaction, there is some disappointment, because the process is not faster. Any increase in the monthly rate of reduction is not anticipated.

The reason given is the government decision to bring over to the United Kingdom 300,000 standards, say 1,000,000 tons, of Canadian lumber, bought during the war by the British Timber Controller, and still held at his disposal. The whole of this lumber is to be shipped during the next 12 months, if that is found practicable. It is to be distributed in all parts of the country and utilized in the construction of tens of thousands of houses to be erected under the national housing scheme, which, as a factor in industrial pacification, is regarded as a matter of prime urgency. At the same time it is realized that operations of such magnitude are bound to militate against the speedy improvement in the shipping position.

The Union Navigation Co. Ltd., Montreal and New York, which recently gave up business, and was wound up, had the following officers: President, H. Whiton, New York; Vice President, W. I. Gear, Montreal; Secretary, H. J. Donnelly, Montreal; Treasurer, C. H. Schneider, New York; other directors, W. A. Coates, R. W. Reford, and J. R. Gordon. Interests associated with Robt. Reford Co. Ltd., have applied for the incorporation of another company having the same name, and it is now being organized.

United States Grain Shipments via Montreal.

Canadian Railway and Marine World for July contained, on page 409, a statement made by the acting Minister of Trade and Commerce on June 19, to the effect that shipment of U.S. wheat when arriving above Montreal in transit for export, would be permitted by license from the Trade and Commerce Department until further ordered, and that in a few days thereafter regulations would be formulated in respect to such shipments to ensure that shippers must provide tonnage to carry such grain from the Canadian seaboard in order to prevent a congestion in Canadian elevators.

We were advised by the Trade and Commerce Department on July 7 that the contemplated regulations were not formulated and that U.S. grain is permitted to pass through Canada in transit, without license, for the present at least, but that later on, should it appear that the quantity of foreign grain in Canadian elevators is liable to endanger prompt dispatch of the Canadian crop when it comes on the market, steps will have to be taken to limit the movement of such foreign grain through Canada.

The Robert Reford Co., Ltd., agents for the Cunard Line, Montreal, has been reorganized, the Cunard Steamship Co. acquiring an interest in the new company. The directors are: President, Robt. W. Reford; Vice President, W. I. Gear; Sir T. Ashley Sparke, New York; W. A. Coates, Wm. Phillips, and S. Barrow. The Cunard Steamship Co. now includes, in addition to the Cunard Line, the Anchor, Donaldson, Thomson, Brocklebank, Well, Commonwealth and Dominion, and American-Levant Lines. When the Canadian Northern Ry. decided a few years ago to relinquish its ocean steamship business, the Cunard Steamship Co. took over Canadian Northern Steamships Ltd. and its vessels Royal Edward and Royal George, the former of which was lost during the war. Wm. Phillips, one of the new directors of the Robert Reford Co., was formerly European Manager, Canadian Northern Steamships Ltd., London, Eng.; W. A. Coates, another director, has been in the Cunard Co's service for many years, and S. Barrow is the company's Manager at Quebec. R. W. Reford, President of the Robert Reford Co., has been added to the Cunard Steamship Co's board of directors. The new arrangements will bring the Cunard Line into closer touch with Canadian trade, and will result in increased service between Canada, the United Kingdom and the European Continent, as soon as the new steamships now under construction are ready for service.

The Dominion Government's s.s. Lansdowne is being offered for sale by tender as she lies at Dartmouth, N.S. She was built at Macan in 1884, her dimensions being, length, 188.6 ft.; breadth, 32.1 ft.; depth, 15.8 ft.; tonnage, 680 gross; 463 net. She is equipped with compound surface condensing engine, with cylinders 24 and 43 in. diameter by 36 in. stroke, 80 n.h.p. driving a screw, and is supplied with steam by a return tubular boiler 13 ft. by 9 ft. 10½ in., built in 1904.

Job Shipping Corporation, Ltd., has been granted supplementary letters patent subdividing its existing 300 shares of the par value of \$100 each into 3,000 shares of \$10 each.

August, 1919.

The Canadian Government Merchant Marine Ltd.. Discussed in the House of Commons

On July 5, when the House of Commons was in committee of supply, on the item "Public Works, chargeable to capital, Marine Department, \$10,000,000," the following discussion took place.

J. H. Sinclair, M.P., for Antigonish and Guysborough, N.S. "What does the Minister propose to do with that money?"

Hon. C. C. Ballantyne, Minister of Marine:—I am quite sure that all members of the committee are fully aware of the government's programme for shipbuilding. The very modest amount that we have in this item is to complete the government's programme.

J. H. Sinclair—Could the minister give us any idea of what he expects to earn from his ships? I asked a question the other day about the rate earned on the cargo that the Canadian Warrior carried, and the answer I got was that it was not in the public interest to give the information, and that at the end of the year a statement would be made by somebody to the shareholders—which is the government—but that the people did not seem to have anything at all to do with it. The owners of ships in centers of business make no objection to the publication of the rates they receive for their freights. If you read the New York trade papers you will find the rates quoted day by day, I do not see any good reason why the minister should not give such information to a member of parliament when he asks for it. The minister said, in the answer he gave to my former question, that he carried a certain amount of cargo from one port to another. He did not state the rate he received, and when he was asked to state it he declined to do so. In connection with this matter, I want to obtain from the minister, if I can, the rate that is being charged on raw sugar from the north side of Cuba to Montreal. I drew to the attention of the Minister of Railways some time ago the fact that I was informed that the Shipping Board of New York had made a rate for raw sugar from the north side of Cuba to New York at 38½c per 100 lb. and had made a larger rate to Halifax of 58½c—20c more. It was a curious thing to me, that the Shipping Board of New York was fixing a rate on raw sugar to a Canadian city. That was the first point, then it transpired that one of the government's ships had been used for carrying sugar from Cuba to Montreal refiners at 38½c per 100 lb.—the rate fixed by the Shipping Board of New York to New York,—whereas Montreal is twice as far away from the north side of Cuba as is Halifax; but the refiners at Halifax had to pay 58½c per 100 lb. I want information on two points: In the first place, is our government willing to submit to the New York Shipping Board fixing the rate to Halifax from the north side of Cuba? In the second place, is the government using its ships to carry raw sugar for one particular concern at 20c per 100 lb. less than to their competitors in Halifax and St. John? I would like to get that information from either the Minister of Railways or the Minister of Marine.

Mr. Ballantyne—The reason I was unable to give the information asked for

in regard to rates on cargos carried by government ships is due to the fact that these ships are being operated by the Canadian Government Merchant Marine under D. B. Hanna and his board of directors; it was with no desire on the part of the government to withhold the information were we in possession of it.

J. H. Sinclair—I suppose, Mr. Hanna is a public servant, and if the minister does not know he could get the information by asking him.

Mr. Ballantyne—I will be very glad indeed to get it.

J. H. Sinclair—What does the Minister of Railways say? He is in charge of this business. I notice he smiles. He ought to be able to give me that information. I notified him a few days ago that I wanted to get it before the closing of the house.

Hon. J. D. Reid—The operation of the ships has been by the marine officials and under the board of directors operating the Canadian National Rys. The rates made are kept by that company. Any information, of course, I would have to get from the board of directors, and I can get it if it is in the public interest that it should be given at any particular time. That is the only question that will have to be taken up and discussed at some future time—the question of giving information of that kind just at the time transactions may be made in connection with our great rail-made in connection with our great railway and steamship systems. This is what happens in connection with our railways and also with our steamships. Some person wants to get information that will be of assistance to him individually, and it would not be in the public interest to furnish it to him. I admit that members are entitled to all information that is in the public interest to impart, and I would suggest that at another session both sides get together and decide what information we should give out, for the reason that if it is against the apparent successful operation either of our steamships or our railways, I am sure there is not a member who would want the information. With reference to the rate mentioned, I do not know anything about it, but there has been in force on the Atlantic for years an understanding that the rates from Atlantic ports to foreign ports are the same whether from Canadian or United States ports. The rates from Montreal to Liverpool would be the same as from Portland or from New York, and probably the rate from Cuba to Montreal would be the same as the rate from Cuba to New York. The matter of getting a return cargo has probably something to do with these rates being generally the same to the Atlantic ports.

J. H. Sinclair—Why are the rates higher to Halifax than they are to Montreal?

Hon. J. D. Reid—I will make enquiries and get the information.

Hon. A. K. Maclean, acting Minister of Trade and Commerce—The sugar rate from the British West India Islands, which enjoy preferential treatment under our West Indies treaty, was fixed by the International Sugar Board. My impression is that the International Sugar Board fixed the rate on sugar from

British West India Islands to Halifax and St. John at 57c.

J. H. Sinclair—Did they fix the rate to Montreal?

Mr. Maclean—No, because during the war Montreal was getting its sugar via New York, and the New York rate from the British West India Islands was somewhat lower, because of the fact that the rail rate from New York to Montreal had to be taken into consideration. The situation to which my hon. friend refers was unfair to the sugar refineries at Halifax and St. John and as soon as I learned of it I protested. The Montreal sugar refineries wanted the Cuban sugar for the purpose of manufacturing it and selling it in the United Kingdom, and if the refineries at St. John and Halifax could not get the same rate as the Montreal people got, they were under a disadvantage in attempting to sell sugar in the United Kingdom. Later, however, I understand, the railway made the same offer to the refineries at St. John and Halifax as was made to the Montreal refineries. I myself think that a mistake was made in the first instance.

J. H. Sinclair—My point is that the government ships have been used for the benefit of the Montreal refineries and to the disadvantage of the refineries at Halifax and St. John.

Mr. Ballantyne—I heard Mr. Hanna say that he was quite prepared to carry sugar at the same rate to Halifax and St. John as he carried it to New York for the Montreal refineries.

J. H. Sinclair—The rate ought to be less from the north side of Cuba to Halifax and St. John than it is to Montreal, because it is only half the distance; but the rate to Halifax and St. John is 20c more than the rate to Montreal; and that is due to the interference of the government. I am informed on credible authority that the government has contracted to carry 36,000 tons of raw sugar from the north side of Cuba to Montreal at 37½c per 100 lb. If that is true, it will be impossible for the refiners at Halifax and St. John to compete with the refiners in Montreal. The point is that the government should not use government ships to favor the Montreal refiners against the interests of the refiners at Halifax and St. John. If the minister cannot clear that point up, the people of the Maritime Provinces will not be satisfied.

Mr. Ballantyne—I thought I had made it quite clear. The government has nothing whatever to do with the operating of the ships or the fixing of rates. The government took care to see that just such a case as the hon. member has mentioned should not arise, as it possibly would arise if the government operated the ships and fixed the rates. But the operation of the ships and the fixing of the rates is entirely in Mr. Hanna's hands. The government did not carry that sugar; the government did not fix the rate; the government had nothing whatever to do with it. If the facts are as the hon. member states, I am quite sure that the Minister of Railways will be glad to take the matter up with Mr. Hanna. But I know that the Minister of Railways, like all the other members of the government, does not want to in-

terfere with Mr. Hanna; we want to give him a free hand to operate the ships; just as we give him a free hand to operate the railways. But I did hear Mr. Hanna make the statement that he was quite prepared to carry raw sugar to Halifax and St. John at the same rate that he carried it to New York for Montreal sugar refiners. Mr. Hanna would naturally be glad to get a return cargo, and sugar is about the only cargo he could get.

F. S. Cahill, M.P. for Pontiac, Ont.—I understand that these ships were to be built for the advantage of the Canadian people, but we are told that the ships have been handed over to Mr. Hanna and that he may do as he sees fit; that he may suit himself, not the Canadian people. It seems to me that we could do without this item of \$10,000,000 if it is of no advantage to the people.

A. B. Copp, M.P. for Westmoreland—I am not quite satisfied with the explanation made by the Minister of Marine. He tells us that the management of the government steamships has been handed over to Mr. Hanna; I suppose he means that it has been handed over to the directors of the Canadian National Railways, not to Mr. Hanna personally.

Mr. Reid—The board of directors, of which Mr. Hanna is President.

Mr. Copp—That is what I understand. The Minister of Marine says that the government has no control of the rates; that that is all left to Mr. Hanna; that the government does not want to interfere with him in regard to the steamships, any more than with him in regard to the operation of the railways. We were told by the Minister of Railways last night that when any complaint was made with regard to railway rates those who were interested could appeal to the President of the Canadian National Railways, and if they were not satisfied with this decision they could make a further appeal to the Governor in council, who would take the matter into further consideration and see that a decision was given which was in the interests of the public. If that is the case with regard to the Canadian National Rys., surely it ought to be the case with regard to the steamships built by the Government of Canada and operated by the Canadian National Ry. Co.

Mr. Reid—These government steamships have been handed over to the company of which Mr. Hanna is the President. Under our new Railway Act the Canadian National Rys. come under the Board of Railway Commissioners the same as any other railway, and we have the right of appeal in these cases just as any other railway has. Some of our steamships may be under the Railway Act and thus come under the Board of Railway Commissioners. But the hon. member knows that in any case where an injustice has been done there is the right of appeal to the Governor in council, through the department of which I am the head, and any appeal so made will be taken up and dealt with with a view to doing justice to any member who makes complaints, or to any individual. But until it comes before the government in that way, of course, we leave the responsibility for chartering and operating those vessels as before. The only difference is this: You cannot fix a general rate, as you can with the Board of Railway Commissioners. A vessel may arrive at Montreal, and you may want to charter it to China,

Japan or Liverpool, and the rates may differ from time to time. I do not think it is easy to get a standard rate. I rose only to assure the hon. member that at all times there is the right to appeal to the Governor in council, to the management of the vessels, or to the minister himself in connection with either government vessels or railways.

Mr. Copp—If the information which Mr. Sinclair has given to the committee is correct, viz: that there has been this discrimination of 20c in the freight rate as between Montreal and Halifax and St. John, the Governor in council should not wait for some one to make an appeal, but should take the matter in hand at once and see that justice is done.

Mr. Maclean—The rate to Halifax and St. John was not fixed by the government steamships nor by the Board of Railway Commissioners; it was fixed by the International Sugar Commission, which owns and controls all the sugar production of the British West India Islands until next September or October, and in some way or another it controls the freight. Two years ago it fixed the rate from the British West Indies to Halifax.

J. H. Sinclair—What has the government done to rectify this? Has it taken any action at all?

Mr. Maclean—It could not be rectified because it is a rate fixed by an inter-allied commission.

Mr. Copp—I understand the Board of Railway Commissioners, knowing that raw sugar was being taken to the sugar refineries at Halifax and St. John at 58½c per 100 lb., afterwards entered into a contract, using government ships, for which the people of Canada pay, and gave the benefit of that 20c per 100 lb. to Montreal, and that means that for the benefit of some people in Montreal, absolute disaster is threatened to those two enterprises in the Maritime Provinces each having an investment of some \$10,000,000.

Mr. Maclean—Unintentionally a discrimination was worked against the Halifax and St. John refineries. They presented their opposition to this to the railway. Then the railway undertook to place Halifax and St. John in the same position as regards Cuban importations of sugar. A mistake was made, I think, in the first instance.

Mr. Copp—What steps is the government taking, in the interests of the people, to correct that mistake?

Mr. Maclean—The government has had the matter up before the management of the Canadian National Rys. and this matter has been placed before them. Parliament cannot correct it by discussing the matter here; it might well be left to the business interests involved and the good sense of the management.

Mr. Copp—In spite of what my hon. friend says, we are all interested. This is not a matter of whether I have money invested in that enterprise or not; I am interested just the same, and I do not think it is becoming to my hon. friend in a veiled way to insinuate that I have no right to discuss the matter here.

Mr. Maclean—I do not say so.

Mr. Copp—That is what the hon. gentleman intimated, viz: that I had better leave the matter to the people who are directly interested. I am interested in this matter as a representative from the Maritime Provinces, and if a mistake has been made, while my hon. friend says that the matter has been referred to Mr. Hanna, that is all very well; that may

be the proper way to get this matter adjusted, but when an item like this is before the committee, people who are interested in enterprises in the Maritime Provinces, which enterprises are being driven out of business by circumstances which spell disaster to those enterprises, we should have some assurance from the government that something will be done to see that those people are given a fair and proper settlement.

Mr. Ballantyne—I do not want wrong information to get on Hansard. The Montreal Sugar Refineries applied to the Canadian Government Merchant Marine to move the sugar. They had to move it at the New York rate, and they did so. Had Halifax or St. John made the same application to the Canadian Government Merchant Marine, they would have received the same rate. I am sorry to disagree with my colleague Mr. Maclean, but there has not been any error. When the other two refineries make application, they will get the same rate. There is no discrimination whatever.

Mr. Copp—Then we are to conclude that there is to be nothing done to straighten this matter out and to see that these industries in the Maritime Provinces are not discriminated against.

Mr. Ballantyne—The matter has been arranged.

Mr. Copp—How?

Mr. Ballantyne—I stated a moment ago that Mr. Hanna is quite willing to move sugar at the same rate for St. John and Halifax, as soon as the industries in the Maritime Provinces ask him to do so.

Mr. Copp—Are vessels available to engage in the trade?

Mr. Ballantyne—Yes.

Mr. Maclean—The St. John refinery has already received a cargo.

Canadian Manufacturers Favor Canadian Merchant Marine.

The Canadian Manufacturers' Association passed the following resolution at its annual meeting recently: "Whereas, the farmers and manufacturers of Canada will suffer great loss if adequate tonnage is not available during the coming autumn for the shipment of agricultural and industrial products to Europe, and whereas, the possibility of increasing our export trade is largely dependent upon the volume of available shipping be it therefore resolved, that the Canadian Manufacturers' Association endorse the policy of the Dominion Government to create a Canadian merchant marine, and further, that the government be urged to take the necessary steps to build, purchase or lease sufficient ships to satisfy the demand for tonnage.

The Eastern Shipping Co. Ltd., has been incorporated under the Dominion Companies Act with capital stock of 1,000 shares of no nominal or par value, provided that the amount with which the company shall carry on business shall be \$5,000, and with head office in Toronto, to own and operate steam and other vessels for the carriage of mails, passengers and merchandise, and to carry on a general navigation and steamship management business.

Steam Navigation Co. of Canada Ltd. has been granted supplementary letters patent, increasing its authorized capital stock from \$2,500,000 to \$3,500,000.

Harbor, River and Graving Dock Estimates for 1918-1919 and 1919-1920

In addition to the estimates of which particulars were given in Canadian Railway and Marine World for May, pg. 276, the supplementary estimates for the year ended Mar. 31, 1919, submitted to the House of Commons during the recent session, included the following public works items chargeable to income:—

HARBOR AND RIVERS. NOVA SCOTIA.

Battery point, breakwater repairs and reconstruction, further amount required	\$ 690
Margaree harbor, repairs and improvements, further amount required	5,350
The supplementary estimates for the year ended Mar. 31, 1920 contained the following items chargeable to capital:	
Esquimalt, B.C., new dry dock	\$500,000
Port Arthur and Fort William, harbor and river improvements, further amount required	200,000
Quebec harbor, Champlain dry dock, to complete	207,000
Quebec harbor, River St. Charles improvements	55,800
St. John harbor, improvements, further amount required	250,000
Toronto harbor, improvements, further amount required	200,000
Toronto Island, breakwater protection	200,000
Vancouver harbor, improvements	18,000
Victoria harbor, improvements	21,000

The following items are chargeable to income:—

NOVA SCOTIA.

Bass River wharf	\$ 21,000
Boulardarie Island wharf	1,650
Chebogue harbor, repairs and renewals to beach protection work	3,000
Cheverie, repairs to wharf	2,750
Church Point, repairs to wharf and groynes	2,100
Comeau's Hill, breakwater improvements	1,100
Cow Bay (Point Morien), repairs to breakwater	6,000
Friar's Head, harbor improvements	3,800
Glace Bay, harbor improvements conditional on transfer from Dom. Coal Co.	50,000
Halifax quarantine station, repairs to wharf	2,000
Iona, repairs to wharf	1,000
Jersey Cove, repairs to wharf	1,000
Little Brook, repairs to breakwater	3,000
Little River, repairs to breakwater, wharf	900
Lower Kingsburg, breakwater skidway and boat shed	4,100
Malagash, wharf extension	3,000
Margaree, repairs to breakwater	20,000
Meteghan, to rebuild L of breakwater and part of wharf	13,800
Mira River, to repair and extend jetty	2,000
Mosher's Bay, repairs and improvements to breakwater	6,650
New Campbellton, reconstruction of wharf	4,000
North Ingonish, reconstruction of breakwater	7,800
Oyster Ponds, to repair and rebuild harbor works	2,700
Port Greville, repairs to beach protection	900
Port Hawkesbury, to complete repairs to wharf	800
Port Maitland, repairs to breakwater	2,780
Sandford, repairs to breakwater	2,200
Scotch Cove (White Point), extension of breakwater	3,600
Seaforth, raising breakwater and extending shore protection	3,800
Skinner's Cove, repairs to piers	1,300
Seaside, repairs to wharf	900
Shenacadie, wharf	9,750
Sober Island, extension to wharf	6,000
South Ingonish, reconstruction of beach protection works, revote	900
Sydney, wharf	100,000
Three Fathom harbor, repairs to breakwater, further amount required	3,240
White Point, to complete breakwater	2,250
Whycomagh, repairs to wharf	600
	\$302,370

PRINCE EDWARD ISLAND.

North Lake, boat harbor	\$ 27,000
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NEW BRUNSWICK.

Cocagne, repair to wharf	\$ 1,500
Fairhaven, Deer Island, repairs to wharf	850
Great Salmon River, wharf	2,500
Indian Island, wharf	4,600
Quaco (St. Martins), reconstruction of breakwater	22,000

Richibucto Cape, completion of pier and breakwater	2,000
Two Rivers, repairs to wharf	1,400
	\$ 34,850

QUEBEC.

Bersimis, repairs to wharf	\$ 600.00
Bic, repairs to wharf	1,000.00
Buckingham, wharf	8,000.00
Fabre, wharf extension and freight shed	2,300.00
Fasset, repairs to wharf	1,000.00
Grande Riviere, repairs to pier	6,100.00
Laprairie, protection work, to pay claim of Carlton Construction Co. for work done	2,788.50
Laprairie, to complete protection works	82,000.00
Levis, repairs to deep water wharf	2,000.00
North Timiskaming, wharf	13,000.00
Notre Dome des Sept Douleurs—(Isle Verte), completion of landing wharf	5,000.00
Pointe Shea, Amherst, repairs to pier	10,000.00
Poltimore, wharf	3,000.00
St. Alexis (Grand Baie), freight shed and repairs to wharf	1,440.00
St. Alphonse, repairs to wharf, further amount required	2,000.00
St. Etienne de Malbaie, wharf	12,000.00
St. Francois du Sud, repairs to wharf	27,600.00
St. George de Malbay, repairs to breakwater	850.00
St. Jean Port Joli, repairs to wharf, further amount required	715.00
St. Omer, repairs to wharf	800.00
Sorel, wharf repairs and reconstruction	8,600.00
Ville Marie, repairs and improvements to wharf, to complete, revote \$600	1,000.00
	\$191,793.50

ONTARIO.

Belleville harbor, improvements to wharf and warehouse, further amount required	\$ 500
Bronte, repairs and improvements to pier	5,600
Burlington channel, repairs to pier, further amount required	6,900
Collingwood, breakwater reconstruction	50,000
Depot Harbor, wharf renewal	34,000
Hamilton, harbor improvements	100,000
Kenora, extending wharf	1,400
Kincardine harbor, contribution to municipality towards protection of government piers	1,050
Little Current, rebuilding wharf	54,000
North Bay, repairs to wharf	800
Port Stanley, harbor improvements, further amount required	33,000
Oshawa, repairs to wharf	12,000
Owen Sound, wharf reconstruction	86,000
Parry Sound, repairs to wharf	4,500
Port Dover, harbor improvements	50,000
Portsmouth, repairs to pier	4,000
Rideout Bay, wharf	4,000
Thessalon, breakwater extension	48,000
White River, wharves	6,000
	\$501,750

MANITOBA.

Big Island (Hecla), wharf	\$ 2,400
Goose River and Rat Creek, removal of boulders	5,000
Red River, closing channel at Netley cut	800
	\$ 8,200

BRITISH COLUMBIA.

Bamfield, repairs to wharf	\$ 1,920
Belmont, repairs to wharf	1,000
Boswell, floating wharf	6,500
Campbell River, repairs to wharf	15,800
Carroll's Landing, wharf	7,000
Coal Harbor, reconstruction of float	2,500
Courtenay River, repairs to bank protection	2,200
Cowichan Bay, wharf	11,700
Cultus Creek, floating wharf	6,500
Egmont, float	1,400
Fauquier, wharf	7,000
Fraser River, dredging North Arm, further amount required	50,000
Fraser River, improvements at Nicomen Island	36,000
Fraser River, protection work at Steveston, to complete (revote)	20,000
Graham, wharf	11,500
Hardy Bay, landing float, revote \$1,250	2,700
Kincolith, new wharf	11,000
Long Bay, Gambier Island, float	800
Naramata, wharf	6,400
Naas River, removal of obstructions	10,000
New Massett, rebuilding wharf, further amount required	3,100
Port Alberni, new float and changing position of present float	2,400

Port Moody, float	750
Princess Creek, floating wharf	6,500
South Gabriola Island, wharf	3,500
Stickine River, removal of obstructions	10,000
Ucluelet, repairs to wharf	3,350
Victoria, in full and final settlement of claim of T. C. Sorby in connection with harbor improvements	3,000
Williams Head, quarantine station, repairs to wharf	2,000
Williams Head, quarantine station, repairs to coal wharf	4,700
	\$251,220

DREDGING.

Maritime Provinces, further amount required	100,000
Ontario and Quebec, further amount required	100,000
	\$200,000

Canal Estimates for 1918-1919 and 1919-1920.

In addition to the estimates of which particulars were given in Canadian Railway and Marine World for May, pg. 277, the supplementary estimates for the year ended Mar. 31, 1919, submitted to the House of Commons during the recent session, included the following items:—

Soulanges Canal, repairs and improvements to lock 4, Soulanges, to repair break	\$ 50,000
Lachine Canal, rebuilding and replacing plant and materials destroyed by fire at Wellington basin, May 24, 1918	33,700
Ontario-St. Lawrence Canals, to replace bridge at C.N.R. crossing over Murray Canal	35,000
St. Peter's Canal, rebuilding of highway bridge, further amount required	3,100
Trent Canal, to rebuild wharf at Lindsay	10,000

The Beaver Steamship Co. Ltd., Montreal, has purchased the s.s. Cherokee from a U.S. owner and has transferred her to the Canadian register under the name of Maple Grove. The Cherokee has a wooden hull and was built at Marine City, Mich., in 1889, and was practically reconstructed in 1913. She is of the single deck type, with diagonal strapping on frames, steel arches with bow sheathed for ice, and is of the following dimensions; length b.p., 208 ft., breadth moulded, 35½ ft.; depth moulded, 14 ft.; tonnage, 1,177 gross, 636 net. She is equipped with fore and aft compound engine, with cylinders 25 and 50 in. diameter by 40 in. stroke, 575 i.h.p. at 86 r.p.m., supplied with steam by one firebox boiler 11 ft. 4 in. diameter by 16 ft. long. She was registered as owned by J. C. Garey, Saginaw, Mich.

Beeson's Marine Directory of the Northwestern Lakes, for 1919, has been published, this being the 33rd consecutive year of its issue. The list of vessels trading on the lakes covers both Canadian and U.S. vessels and there is complete information as to the general lake traffic, arranged for easy comparison with the statistics of previous years. The book is well illustrated with views of some of the important works on the Great Lakes, and some vessels, including the Ontario Car Ferry Co.'s car ferry Ontario no. 2, and the Northern Navigation Co.'s s.s. Noronic.

Naval Service Department Vessels—The supplementary estimates for the year ending Mar. 31, 1920, passed at the Dominion Parliament's recent session, provide \$150,000 for new vessels for fisheries protection service on Lake Erie. It is proposed to build three, each about 80 to 90 ft. long, for patrol work, and to have them ready for operation in 1920.

Electrification of Montreal Harbor Terminal Railway.

The Montreal Harbor Commissioners' report for 1918, issued recently, contained the following:—

"The Montreal Harbor Railway Terminals consist of surface lines situated between Victoria Bridge and the end of the piers on the south side of the canal; and the marginal lines from McGill St. down to the Imperial Oil Co.'s wharf at Montreal East; having a total trackage of 55.35 miles. Regularly, during the summer the shunting amounts to from 1,000 to 1,800 cars a day. In case of a breakdown in this service, the economic loss would be severe, as the car unloaders, longshoremen, and the various organized staffs would be immediately thrown out of work, with a resulting general loss of dispatch. Much of the success in Montreal harbor is due to dispatch in loading vessels and unloading cars, and effort is made by direction of the commissioners for a prompt and efficient service. So successful has this service been, that there was not a single complaint, although many might have been expected, during the 200 consecutive working days in the Montreal harbor navigation season. In 1908, the commissioners operated the traffic on the harbor terminals with three steam locomotives. During 1918, nine locomotives were in service, and the limit of car handling was reached at many times during the summer, and prompt steps must be taken by the commissioners to avoid inevitable congestion in their terminals. For export alone, day after day, 30 trains of from 25 to 30 cars arrived for distribution and unloading in Montreal harbor.

"The commissioners, fully alive to the situation, visited the important electrified freight terminals in New York and Philadelphia in 1914. From information obtained, it was found that an electric locomotive could handle, summer or winter, at least 25% more than a steam locomotive, and the operation was much more under control and therefore safer. It was found that electrification was economical in freight yards and terminals, as well as much more satisfactory. The commissioners called in an electrical engineer in 1914, who, in conference with the commissioners' engineering department, made a study of the problem and finally a report was submitted by this engineer to the commissioners, but owing to the financial condition during the war, construction was deferred. The report, 'in view of the operating condition,' recommended the use of 2400 volt, direct current, for operation of electric locomotives, the same high voltage direct current system decided on and now being operated by the Canadian National Rys. in connection with the Montreal tunnel terminal.

"As the Superintendent of the commissioners railway terminals has pointed out, the urgent need for more locomotives for next year's operating work, the commissioners consider the immediate commencement of electrification is of very great importance. The commissioners have consulted with the electrical experts of the railways having their terminals in Montreal, and it is understood that the system now in operation in connection with the Canadian National Rys. and the proposed projects will all be interchangeable with the system proposed for the harbor.

"The extension of the commissioners'

marginal railway eastward along the river front of the harbor has already resulted in wonderful industrial activity from Hochelaga to Pointe-aux-Trembles. A few years ago the Montreal Cotton Co.'s mill was the limit of the industrial development along the water front in the eastern part of the city. With the development of the harbor and the extension of the high level railways and the active operation of the railway terminals, this valuable manufacturing district has entered upon a new era of prosperity."

The Commissioners received tenders up to July 14 for railway substation, switchboard and control equipment, overhead catenary line and bonding material, and wood and steel poles.

It is said that at present only the eastern section of the Harbor Terminal will be electrified, viz. from Beaudry east to the terminal at Pointe aux Trembles, and that steam locomotives will continue to be used on the western section for a time. A sub-station will be built at Beaudry St., where two units are to be installed, but at first only one will be put in, viz., a 1,500 h. p. synchronous motor, direct-connected to two 500 k. w. 1,200 volt generators, connected in series, and, of course, switchboard and control equipment. The overhead catenary will be of standard type. A transmission line, with wood and steel poles, will be erected to supply power to the substation. Provision will be made in the substation for a power supply for the cold storage warehouse to be erected at the east end of the harbor.

The commissioners are negotiating with Canadian National Rys. for renting two of the Mount Royal tunnel electric locomotives.

Demountable Wooden Ships to Be Built in British Columbia.

Some particulars of this project were given in Canadian Railway and Marine World for July, pg. 400. The Trade and Commerce Department's Weekly Bulletin has published the following in the same connection:—Sir James Ball, British Timber Controller, has given an order for 2,000,000 ft. of cut lumber to be shipped from British Columbia to the United Kingdom in the form of a demountable ship propelled by its own steam. The scheme is to build the cut lumber into a ship and after arrival at destination to remove therefrom the machinery, which can be sent back for use over again. If the scheme works out as expected by its promoters, it is likely to revolutionize the whole system of off-shore lumber trade and will greatly increase the lumber possibilities for B.C. timber in foreign countries by reducing considerably transportation cost and by automatically solving the tonnage problem.

The method of construction is very simple. Blocks will first be laid for the keel, and fore-and-aft and cross timbers will then be placed in position. When sufficient material has been thus put together to ensure buoyancy enough to keep the bottom high out of the water, the vessel will be launched with donkey engines on board. These are to be used to lift the lumber out of the water and to place in the ship. The lumber will be clamped down securely with bolts and nuts for every 8 ft. of depth. On arrival at destination, the fastenings can be readily taken off so as to leave

the lumber and timber composing the ship immediately ready for distribution. The ship will be fitted with schooner rig and auxiliary engines, which will be taken out on arrival at destination and either sold, or shipped back for further use. The promoters believe they will be able to put B.C. lumber into the European markets at prices that will beat Norwegian and Swedish competition.

The ship was designed by John Arbutnot and J. H. Price, both of Victoria, B.C. This type of lumber ship will probably be known as an Arbutnot.

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.

Brown's Copper & Brass Rolling Mills Ltd., New Toronto, Ont.—Robert K. Newton, heretofore Assistant Manager of Sales, has been appointed General Sales Manager.

Davis-Bournonville Co., Jersey City, N. J., has resumed the monthly publication of "Autogenous Welding," which was suspended during the war. The July number is devoted largely to the use of oxy-acetylene welding and cutting in the war.

Whiting Foundry Equipment Co., Harvey, Ill., has issued catalogue 145, "Whiting Railroad Equipment," describing and illustrating various railway specialties.

Wonham, Bates & Goode Inc., engineers, manufacturers, representatives and exporters, New York, N.Y., have opened a Canadian office at 145 St. James St., Montreal, in charge of A. G. Nutter, who prior to the war was with Mussels Limited, Montreal, and who, after having served at the front in Belgium and France, finally as Major of the 25th Battalion, was attached to the British Mission at Washington. Wonham, Bates and Goode, Inc., have sold to Canadian Rolling Mills a 15-ton, 8-ton wheel, Orton & Steinbrenner locomotive crane, with 40 in. electric magnet.

Transportation Conventions in 1919

September.—Master Car and Locomotive Painters' Association of the United States and Canada, Chicago, Ill.
 Sept. 16-19.—Traveling Engineers' Association, Chicago, Ill.
 Sept. 16-18.—Roadmasters' and Maintenance of Way Association, Chicago, Ill.
 Oct. 6-10.—American Electric Railway Association, Atlantic City, N.J.
 Oct. 21-23.—American Railway Bridge and Building Association, Cleveland, Ohio.
 Oct. 21-23.—Maintenance of Way and Master Painters' Association, St. Louis, Me.

Transportation Associations, Clubs, Etc.

The names of persons given below are those of the secretaries unless otherwise stated:
 Belleville Railway Men's Educational Club. Meets each Tuesday, 7.30 p.m. F. A. Pingston, Belleville, Ont.
 Canadian Car Service Bureau—W. J. Collins, Manager, 401 St. Nicholas Building, Montreal.
 Canadian Electric Railway Association—Acton Burrows, 70 Bond Street, Toronto.
 Canadian Freight Association (Eastern lines)—G. C. Ransom, Canadian Express Building, Montreal.
 Canadian Freight Association (Western lines)—W. E. Campbell, 305 Boyd Block, Winnipeg.