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The 13th Canadian Light Railway Operating Company's Organization and Work in the Field, With a General Description of the Entire Light Railway System in France.

By Captain R. McKillop, Officer Commanding the Company Throughout Its Services.

In October, 1916, the Militia Department at Ottawa received a request from the British Government, through the Right Hon. A. Bonar Law, to recruit all available railway operating men, and authority was at once granted to organize the first company, known as the 1st Section Skilled Railway Employes. On Feb. 15, 1917, authority was granted by the Adjutant-General for the formation of the second section, and the following article refers to the latter company's work. The authority for its formation was contained in order in Council 261, dated Jan. 27, 1917, and among other things, it provided for "working pay" being allowed all officers and men doing "skilled" railway work. In the case of officers this extra pay amounted to $1 a day and as regards the men, the officer commanding was empowered to establish the rates, which varied from 60c to $1 a day. The establishment was rather an unusual one from a military standpoint, being composed of 3 officers and 266 other ranks, the latter only having 112 privates, the remainder being non-commissioned officers. This establishment was, however, changed in England to 5 officers and 271 other ranks, the latter having 179 privates, instead of 112.

The author was given command of the company on Feb. 17, 1917, and recruiting was carried on throughout Canada, men being drawn from all the railway companies, which had previously been requested by Ottawa to assist in the prompt releasing of men. The Canadian Government Rys. took an especially keen interest in this recruiting, by arranging to choose full train crews, consisting of one locomotive man and fireman, one conductor and two brakemen, from the various districts. The assistance of the various railway companies was so generous that the entire company was recruited in one month at a cost of only $500, which was donated by the Ontario Government. Guy St. Barracks, Montreal, was chosen as the concentration center, where manual drill was carried on until April 13, 1917, on which day the unit entrained for Halifax, and embarked for England on April 16, on the R.M.S. Grampian, arriving at Liverpool on April 29, after an uneventful passage. Longmoor Camp was the base in England for operating troops, but owing to congestion, the unit was first sent to Purfleet, Essex, and then to Aldershot, where overseas leave was granted, military training continued and other arrangements made for dispatch to the front.

The company was originally intended for broad gauge operating work, as only the best main line men were chosen by the recruiting officers, but the light railway organization was developing to such an extent in France, and there was such a demand for personnel to fill it, that the unit was ordered for light railway work and re-named the 13th Canadian Light Railway Operating Co. In order to train the unit for this class of work, 39 men, with ability to operate gasoline power

Captain Robert McKillop.

units, had to be chosen and sent to Longmoor Camp, where they underwent special training in the operation of petrol electric and simplex petrol power to fit them for their work in France.

The main body were inspected by General Turner, V.C., G.O.C. Canadian troops in the British Isles, on June 8, 1917, and proceeded to France the following day, via Southhampton, and Le Havre, the Longmoor detachment following one month later. The unit rested in Le Havre for 3 days and then moved forward via Rouen and Calais to Dunkirk, where it arrived on June 17, 1917, and awaited orders to proceed up the line.

Before dealing with the unit's active work in France, it would seem advisable to explain the fundamental principles of light railways, the method of operation adopted by the British authorities, and other details, so that the reader will be in a better position to understand the whole situation.

General—The primary object of light railways was to relieve traffic on the heavily travelled roads, deliver the army supplies by rapid dispatch to destination, and with less loss from enemy action. The tracks could be advanced rapidly, following a general advance and laid to points inaccessible by roads. Also evacuation could be accomplished much faster by rail.

A very complete system of connecting transportation systems between the British Isles and the firing line was established by the spring of 1917, consisting of:—1. Steamship lines to various ports in France. 2. Standard gauge railways from the ports to forward railheads all along the front. 3. Inland water transport routes, via rivers and canals, to serve the lines of communication and the forward areas. 4. Light railways, from standard gauge railway connections and barge routes to the trench tramways systems. 5. Trench tramways to the rear defensive systems, operated by small tractors, horses or man power. Road vehicles and fatigue parties to the firing line. The light railway system was not the least of these, although each separate system played a most important part in the feeding of men, animals and guns. When it is considered that for every 30,000 tons handled on the light railways, 10,000 three ton lorries, with full loads, were kept off the roads, its significance in this regard at any rate can easily be appreciated.

Organization—The light railway system, with its complex activities, carried on over wide areas by a small army of officers and men, required, above all, careful organization to perform its services with precision, to maintain discipline and to ensure thoroughness and satisfaction in every detail of its work. There had to be an unbroken line of responsibility from the sapper to the general; provision had to be made for the building and maintaining of a track system; arrangements had to be perfected

for the ordering and building of equipment in such numbers and variety as the traffic demanded and an intricate system had to be devised for maintaining and operating such vehicles under war conditions, as well as furnishing facilities, whereby such a system could be used to the best advantage of the army in general.

The chart on this page shows such an organization, which during the war worked with the perfect precision desired. It was arranged on the army division principle, viz., each army having at its head an assistant director of light railways (A.D.L.R.) reporting to general headquarters (G.H.Q.) and co-operating with the Assistant Director General of Transportation (A.D.G.T.) at army headquarters.

The A.D.L.R. was in charge of all track construction, maintenance and operation in 1917, and under him there was a light railway construction engineer (L.R.C.E.) on the track side, and a superintendent of light railways (S.L.R.) on the operating side. The latter had a complete staff

Lieutenant R. S. Richardson.
Traffic Officer, 13th Canadian Light Railway Operating Co.

of officers under him, and the officers commanding operating and work shops companies reported to him for duty. (See chart showing company organization on this page).

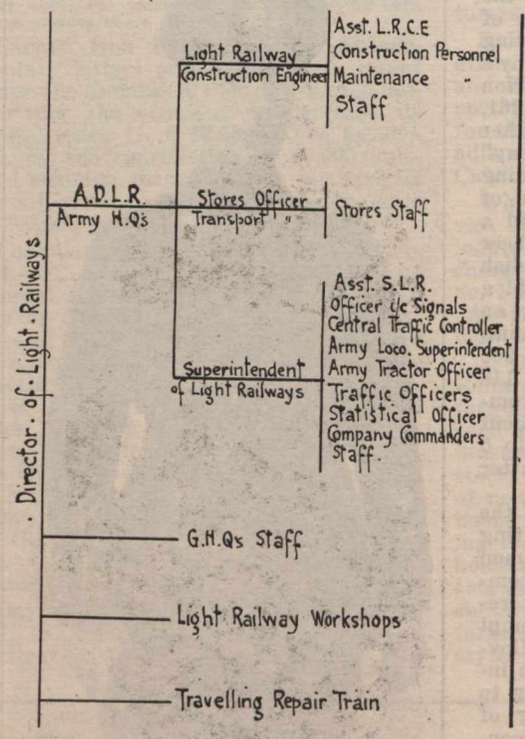
In March, 1918, there were approximately 32 operating companies, 6 army A.D.L.R. staffs, General Headquarters staff, and thousands of men in the line of communication work shops; all skilled railway men, drawn from the British Isles, Canada, the United States, Australia, South Africa, New Zealand, India, South America, and from all corners of the earth. Adding to these attached unskilled labor and personnel employed on construction, both skilled and unskilled, the number of all ranks on the roll of the British light railway system would run well over a six figure total.

Light Railway Trackage in general commenced from a point where the standard railways ceased, and continued to their connection with the trench tramway systems. Overlapping naturally occurred where the enemy had retreated, allowing standard gauge railheads to be advanced, but this was advantageous, as it provided more than one railhead where tonnage could be transferred from the standard gauge, thus relieving the cars, which were always in great demand, much more quickly. Operating companies generally located their camps and terminals away from railheads, ammunition dumps, and hospitals, in order to avoid bunching of targets liable to attract enemy shelling and bombing. The terminals consisted of inbound and outbound working yards, storage yards, car repair tracks and power terminals. Tracks were run to the railheads, and laid along transhipping sidings, where ammunition, stone, supplies and other tonnage was transhipped direct, and hauled by yard locomotives to the classification yards. The main line generally ran forward to points where it connected by a Y to a forward lateral track running parallel with the line, and about 2 or 3 miles behind it. From the forward lateral, tracks ran at right angles again, forward to the trench tramway systems, at sufficient distances apart to suit the requirements of the army, and wherever possible they were connected together at the foremost or most easterly point, thus providing loops where traffic could be run in any direction, in case one of the forward branches was broken by shell fire. Spur tracks were run from the main line, lateral and forward branch lines, to battery positions, field dressing stations, stone dumps, R.E. yards, camps, ammunition dumps, casualty clearing stations, salvage dumps or wherever tracks were required, and passing tracks were built at all stations and intermediate points east, having branches forward of the forward lateral. The forward lateral of where necessary. A forward storage yard was also necessary, to which point steam locomotives handled cars in daylight for night delivery by tractor power.

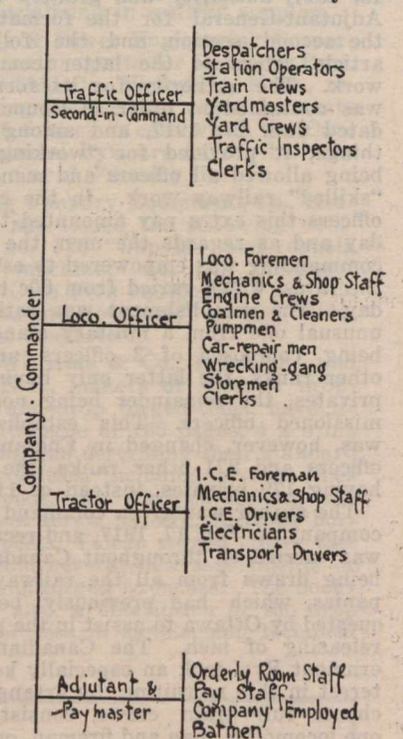
Just previous to the launching of the great German offensive in Mar., 1918, on some parts of the front, there was a forward, intermediate and back lateral, connected by main tracks running west and same lateral of other systems to the one army system was connected with the north and south, with the result that there was a continuous track 153 miles long, behind the entire British, Belgian and Portugese fronts, connecting with the French system on the south. The purpose of this international line was to move shock troops rapidly to whatever point of the firing line the great drive was to be directed, and it proved itself of immeasurable value to the allied forces during the offensive, until it was broken through on the Somme. Even then reserves were rushed from the north along its route to near Arras, where it connected with a back lateral running as far south as Bucquoy Village, behind Achiet-le-Grand.

Telephone System. (See chart on page 633). To maintain and install a telephone system with a war on is not an easy task, but it had to be done, otherwise traffic could not be moved promptly and in volume, or communication maintained internally and externally. The light railway telephone system originated at G.H.Q., and ran to a "super control," situated at an intermediate point behind the armies. From "super control," separate lines were run to each "central control," and from there to the "district controls." By this telephone system super control handled the distribution of power and cars between armies, and central control between operating companies. Lines also ran connecting all central controls together and district controls in the same manner. Corps light railway offices were connected by separate wires to central controls and the latter to army headquarters and trunk lines.

From district controls two traffic lines were run wherever there were tracks, one known as the block to block line, connecting with all stations, and the other as the through reporting line, connecting main stations or report centers. Each station was equipped with a telephone box, having a lever which could be moved to either side when conversing with adjoining stations, or left in a



Light Railway System Headquarters Organization.



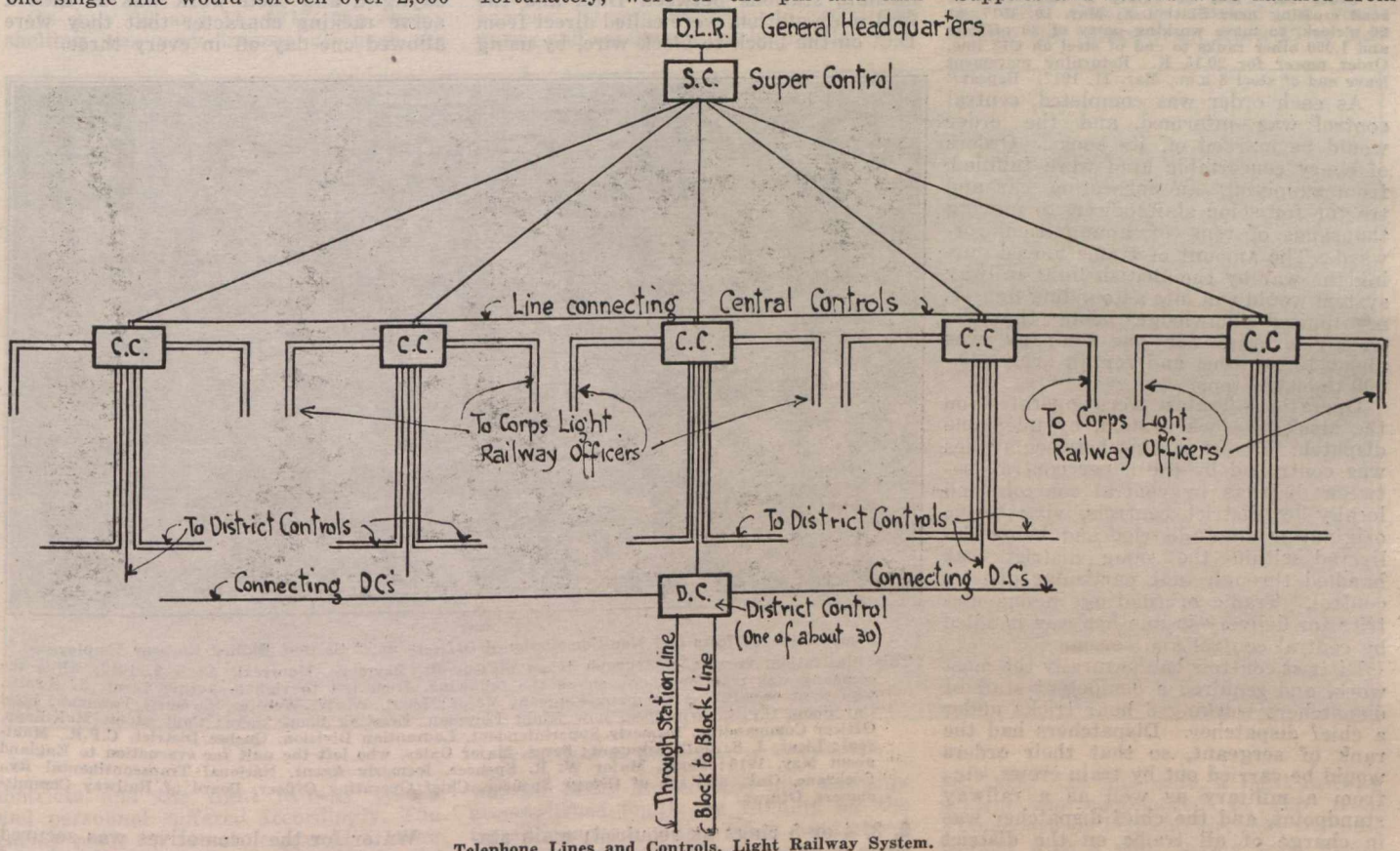
Light Railway Company Organization.

through position when a through connection was desired. Stations connected with the through wire had small switch boards, by which connections could be made between the two wires. In the event of district control, wishing to converse with an intermediate station away up the line, the nearest report center was called on the through wire, it, in turn, called the station, and made the through connection by plugs on its switchboard.

Breaks in the line were so numerous, on account of shelling and concussion from our own guns, that each district control had a sufficient number of line men always on hand to be rushed to the break, in a tractor. In this manner communication was maintained in a satisfactory manner.

In addition to traffic lines there were the usual domestic telephones at each of the headquarters, connected by switchboard to the traffic lines.

Connecting all these wires together in one single line would stretch over 2,000 miles. This will give the reader some idea of the extent of the telephone system and what it meant to maintain communication throughout heavy bombardments.



Telephone Lines and Controls, Light Railway System.

Equipment—The power units and cars used on the light railway system were strong and up to date, the expenditure on which must have run into millions of pounds sterling. Steam locomotives were of four classes, viz.: Baldwin, 16 ton locomotives, of the mogul type, water capacity, 400 gall., working steam pressure 180 lb., coal capacity, half a gross ton. American, 15 ton locomotives, of the prairie type, otherwise similar to the Baldwin. Hunslets, 15 tons, of the mogul type, built in England according to English practice, and small Hudson locomotives.

Tractors were of three types, 20 h.p., open top simplex tractors, 40 h.p. simplex with armor plated sides and tops, and 6 ton petrol electric locomotives also armor plated.

The cars varied in capacity from 1 to 10 tons and were recognized by letters, as follows: A and B class cars, 1 ton capacity, with removable sides; C class, 3 ton capacity, with removable sides; D class, 10 tons capacity, with 4 drop doors on sides; E class, 10 tons capacity, with 2 drop doors on sides, equipped with well bottom; F class, 10 ton capacity flats; G class, 10 ton capacity flats with wells; H class, flat tank cars equipped with steel rectangular tanks with a capacity of 1,500 imp. gall. and large numbers of 1 ton tip cars. The above were all War Department (W.D.) cars, but mixed up among them could be found French decauville cars of 10 ton capacity, and captured German cars of 7½ ton capacity, the latter of very poor construction. The up to date W.D. cars had truck and car frames built of steel and were wonderfully strong and well built for narrow gauge work. The couplings, unfortunately, were of the pin and link type, with the result that frequent accidents occurred, through the couplings failing or in switching operations.

Special flat cars were also operated, equipped with ramps for loading 6 in. and 8 in. Howitzer guns, and covered box cars with sliding doors were used in 1918 for handling wounded stretcher cases, rations, mail, etc. Each company had a 6 ton all steel wrecking crane, which was very useful, although low in capacity, but a heavier crane would have been practically impossible for a 2 ft. gauge railway. Each army had a headquarters repair train, consisting of work, store, tool, power and office cars, electric lighted by dynamos and up to date in every respect as well as an equipped train for the use of the stores officer.

Traffic—The principle traffic handled was ammunitions, rations, feed and supplies, troops, wounded, R.E. stores, ordnance, water, road stone, lumber, firewood, coal, logs, rails, ties and fastenings, ballast, salvage and guns. Certain traffic was given preference over all other traffic, depending on whether the fighting troops were on the offensive or defensive. Generally it would be the wounded, but occasionally it was ammunition, supplies or fresh troops, in which event the stretcher cases among the wounded were handled in ambulances and only walking wounded carried by railway.

Wherever possible, wounded were moved from the field dressing stations to the casualty clearing stations, and from there to the standard gauge ambulance trains, by light railways, as a journey by ambulance over the bumpy roads was a great hardship to these men who deserved the best that could be given them. Not only our own wounded were handled, but the enemy's also, our own always first.

Ammunition was handled direct from the broad gauge or from the dumps to forward dumps and battery positions. Supplies and rations were handled from the broad gauge pack trains to divisions, brigades and small units all along the lines; road stone from stone trains to stone sidings, where roads were crossed by the tracks; R.E. stores and ordnance from dumps to various consignees; water to camps, horselines and batteries by tank cars and logs or firewood from the Canadian Forestry Corps saw mills. Mounted guns were loaded on light railway special cars and moved to battery positions and taken out when required and construction material for the C.R.T. (Canadian Railway Troops) comprised a large portion of the tonnage. The current of the traffic naturally was forward, but in the opposite direction salvage and troops were moved.

Traffic was not carried indiscriminately, but by direct orders from Army Light Railway Headquarters (see accompanying organization and telephone charts). A corps light railway officer was stationed with each corps headquarters,

whose duty it was to book all orders from the various branches of the corps in a traffic order book. At a certain time each night he would phone central control at army L.R.H.Q., and communicate to the officer in charge the traffic orders that had been booked for the following day. Central control would then tabulate all these orders, review the car and power situation, previously ascertained from company commanders, and decide which orders could be taken. Accepted orders, each of which was given a number, would be transmitted to the corps L.R. officers and company commanders in district controls. The former would phone all interested parties, and arrange to have fatigue parties ready at appointed times the following day to load or unload the cars, and the latter would study the orders for the following day, and in due course order cars, power, and crews to fulfil them. A sample of one such order may prove of some interest:

"Order 52.—Place 33 empty D class cars at road crossing near Station X, Mar. 10, 1917, at 20 o'clock, to move working party of 20 officers and 1,000 other ranks to end of steel on C13 line. Order power for 20.15 K. Returning movement leave end of steel 3 a.m., Mar. 11, 1917. Repeat."

As each order was completed, central control was informed, and the order would be marked off its books. Orders of every conceivable kind were fulfilled, from supplying an inspection car and tractor for some staff officer, to moving thousands of tons of ammunition forward. The amount of traffic moved during the war by the British light railway system would run into astounding figures, my limited knowledge being that the weekly average for one company was about 10,000 tons and for an army, 40,000 to 50,000 tons.

Operation—Trains were operated on the block to block system, by telephone dispatch. Traffic passing between armies was controlled by the super control, between districts by central controls and locally by district controls, viz.: traffic originating in a district and being delivered within the same district was handled through that particular district control. Traffic originating in one district for delivery in another was handled by central control and so on.

District controls had naturally the most work, and required a competent staff of dispatchers working 8 hour tricks under a chief dispatcher. Dispatchers had the rank of sergeant, so that their orders would be carried out by train crews, etc., from a military as well as a railway standpoint, and the chief dispatcher was in charge of all traffic on the district with the rank of regimental sergeant major.

In addition to controlling the traffic, district controls kept all records, and prepared all the daily, weekly and monthly statistics required by central control. All the various movements were recorded on train boards, by the British operating companies, and on dispatchers' sheets by most of the colonial companies, according to their home practices. The yardmaster would report to district control when trains were ready for the road and their consists would be recorded on locomotive slips. District control would telephone the first station out, get the right of way from the operator and dispatch the train on its way. Stations would phone ahead to each other in the same manner, and the train would be handled block to block to its destination, only stopping for meets, or to take water, district control being advised by stations of the passing time of trains so that the sheet could be kept up to date. Locomotive slips were kept filled up for each movement of a locomotive from the time it left the running shed until it returned to the shed to be tied up. These slips showed all the information necessary to allow the statistical clerk to keep his records, the running sheet only being used to control the traffic.

Stations were installed wherever required along the line, and consisted of dugouts, shacks dug into the ground, or any old building suitable for the purpose. They were manned by two men, one for day shift and the other for night, equipped with watches, lamps, flags and train register books. At each village or main station, there would be a larger staff, some of these having as many as 20 men, including yard staffs, telephone men, switch locomotive crews, etc. All stations were connected on the block to block telephone wire and main stations, in addition, on the through wire. Stations were called by a system of rings, viz.: intermediate stations between D.C., and the first main station, were called direct from D.C. on the block to block wire, by using 2, 3, 4 or 5 rings as required; main stations were called in a similar manner on the through wire, and intermediate stations beyond the first main station were called on the block to block line by main stations, the normal position of lever in station telephone boxes being "through"; district control in this manner could speak to any station on the district and keep in touch with the traffic.

As the traffic was intense on the single tracks, every care had to be taken to avoid congestion, tieups or accidents. No lights of any kind were allowed at night in the forward areas, and it was no easy task to keep the wheels moving in the pitch dark, sometimes through a gassed, shelled or bombed area. Locomotives were generally doubleheaded, to reduce the number of trains to the minimum and run in convoy with pusher locomotives on the grades. Destination stations were advised of the probable arrival time of trains, so that unloading parties would be on hand to unload the trains immediately on arrival, thus releasing power and cars, which had to make as many as two or three trips daily on short lines or during rush periods.

To keep the traffic moving, wrecking gangs were always on hand, housed in boarding cars, and their task was a heavy one, as derailments were frequent in some localities where the track was bad, or where it had been destroyed by shell fire. Travelling inspectors, with the rank of sergeant major, were also employed to pilot trains to their correct destinations. These men were required to know every inch of the track, and the location of every battery. They had to walk the track at night and know that it was passable, and emergency track gangs had to be called out to repair damage created by shells and bombs, as no cars could be left in the forward area during the hours of observation. Their tour of duty was over only when every train destined for their section of the track had been delivered and the empties returned before daylight, and their work was of such a nerve racking character that they were allowed one day off in every three.

Some of the Officers and Non-Commissioned Officers no. 2 Section, Skilled Railway Employes.

This illustration, from a photograph taken at Guy St. Barracks, Montreal, April 2, 1917, while the company was training there, shows the following, from left to right:—Acting Lieut. J. Swaile, who went overseas as Company Sergeant Major; Lieut. W. W. Webster, formerly Foreman, Steel Car Shop, C.P.R., Winnipeg, now Night Foreman, Erecting Shop, there; Capt. Robt. McKillopp, Officer Commanding, formerly Superintendent, Laurentian Division, Quebec District, C.P.R., Montreal; Lieut. J. S. Hall, Adjutant; Sergt. Major Oxley, who left the unit for evacuation to England about May, 1918; Sergt. Major W. R. Spencer, formerly Agent, National Transcontinental Ry., Cochrane, Ont., and son of George Spencer, Chief Operating Officer, Board of Railway Commissioners, Ottawa.

Water for the locomotives was secured by pumping into overhead or underground tanks, pumps manufactured by the Merryweather Co. of England, being generally used. The source of supply was wells, streams, rivers, canals and shell holes, and each locomotive was equipped with a suction hose. Where water was scarce, tank cars were filled by pumps at any available supply and set out along the line where required. Steam engines were used in daytime up to the point of enemy observation and to any point on the line at night, tractors being used at all other times and places.

The 13th Light Railway Operating Company's Work.

To resume the record of work performed by the 13th C.L.R.O. Co. Orders were ultimately received to proceed by road from Dunkirk to Coxyde on the Belgian coast, and the unit arrived there on June 21, 1917, locating camp in the sand dunes and immediately commenced unloading equipment from the Belgian railways. At that time the French were

operating the light railway and they continued to do so until June 26, 1917, on which date the 13th Company took over the system under the British Fourth Army.

A great offensive was being planned on the Nieuport front, the object of which was to cut off the German northern army, and a great number of guns and men were moved up to participate in it. This meant plenty of work for the light railway, which had to be extedend to take in the full area of operations, and it was one of the most important fronts on the battle line at that time, the best of equipment was supplied to the unit. Ammunition was hauled day and night to the batteries, the average being 1,500 tons daily for two months, with the other usual traffic in addition. Enemy shelling was constant and heavy, which greatly impeded the working of this traffic. The tracks had been laid alongside the roads, and not only suffered from shelling, but were continually being blocked by road transport.

On July 10 and 11, 1917, the enemy shelling was very intense all over the districts and the light railway tracks and personnel suffered accordingly. The enemy made an attack, captured a large number of prisoners and used the deadly mustard gas for the first time, the result of which is now well known. So much damage was done to the units headquarters camp and yards that they were moved back about a mile, but this did not interfere with the handling of traffic.

Towards the end of Aug., 1917, the proposed drive was called off and the unit was ordered to draw all the ammunition and supplies back to the railheads. Shelling still continued heavy, and camp was moved twice before orders were received to go south and report to the A.D.L.R. First Army. From Sept. 11 to Nov. 6, 1917, the main body of the unit was located at Lestram, on the Portugese front, the remainder being scattered among various British companies, assisting in work of a particular nature. On the latter date, orders were received to proceed to Achiet-le-Grand in the Somme area, and report to the A.D.L.R. Third Army North. The district around Croiselles, Mory and Death Valley was taken over on Nov. 10, 1917, and a rather quiet period was spent during the winter, the usual traffic being handled with very little shelling back of the forward lines, which were within range of the enemy's field guns.

It was the calm before the storm, however, as the memorable 21st of March, 1918, proved. On that day the great and final German supreme offensive was launched, commencing about 5 a.m., and it sounded as if all the pent up rage of the ages had been let loose. The air simply rained shells, and when our own guns opened up the whole ground trembled. As the enemy advanced, stations were abandoned one by one, all papers being destroyed, and telephones removed by the men before leaving, until all the personnel were back at Achiet-le-Grand. On Mar. 22, Achiet was evacuated, as most of the batteries which the unit had been serving with ammunition had evacuated or been put out of action, and in addition Achiet was being heavily shelled and bombed. It was necessary to get all the power and equipment out before the track was too badly broken, and this was only accomplished finally by running all the trains in convoy, with a track gang ahead of the first train. A new camp was established at Rettemoy Farm, and the operation of the line continued from there, the principle work being to move ammunition from Puisieux dump to Bucquoy village where it was taken forward by motor lorry. On Mar. 26, Bucquoy was occupied by the enemy, which put a stop to the transfer work, and the unit slipped quietly away north and arrived safely at Maroeuil, behind Arras, before dawn of the same day. The roll was called, and an inventory taken of the stock, which showed that only one man had been wounded, and all the power, equipment and tools had been saved, except one tractor and two hospital cars destroyed by shell fire and one locomotive which overturned during evacuation. The equipment saved included 16 steam locomotives, 15 gasoline locomotives, and 200 cars of all classes. All other light railway companies south of us lost their equipment, which was valued at about $10,000,000.

The unit was to rest at Maroeuil for a few days, but in the early morning of Mar. 28, 1918, a shell landed in the middle of the camp, killing 24 and wounding 26 men. It was the hardest of luck to lose so many men, after coming through the offensive with only one casualty, but it was the fortune of war. It was a sad lot of men who arrived at Barlin next morning, drenched to the skin after travelling all night, as each one had lost a comrade or friend. Between Mar. 28 and April 13, the unit rested in the First Army Mine School at Houchin and then was ordered to Choques, to dig trenches, as the enemy had broken through the Portugese army.

Before the work was begun, however, orders came to proceed by rail to Vignacourt, near the River Somme. Owing to the fact that the roads suffered most through the capture of more than half of the light railway system, the roads branch of the army claimed the idle light railway personnel, with the result that the 13th Company worked on roads around the village from April 17 to May 30, 1918. On that date, a light railway system was commenced to run from Vignacourt to Poulainville, and the unit worked with a will, having been promised that it would operate the line on completion. Construction work continued until the 6th Battalion, C.R.T., arrived to take over the work, and the unit commenced to operate the construction trains.

On Aug. 8, 1918, the great allied drive was launched on the Amiens front, wounded began to arrive, and in three days 10,000 were handled through the casualty clearing station at Vignacourt by the unit. The advance was so rapid that the system then being operated, became a wash-out, a move was therefore made forward to Guillaucourt, where the operation of the recaptured tracks was commenced. In the period from Aug. 13 to Sept. 8, the unit moved a number of times, always forward, and finally came to a temporary stop at Peronne. The traffic out of Peronne was very heavy, as there was only one light railway company operating in the salient created by

Track Gang on Light Railway Construction.

the drive, and day and night, without ceasing, the trains plied to and fro between Peronne and Nurlu. This line was only 7 miles long and 65 trains were handled over it daily, hauling a total daily tonnage of between 2,000 and 3,000 tons. The enemy fell back to the Hindenburg line and the unit moved its headquarters to Tincourt, near Roisel, on Oct. 12, 1918. From then until the armistice, traffic was very heavy and the line grew longer every day. It ran in the triangle formed by the standard gauge railways running between Roisel, Cambrai and St. Quentin, through a country devoid of any other means of transportation. An old metre gauge track was converted to a 2 ft. gauge in quick time, and traffic was daily delivered to the end of steel behind the advancing army. The unit was reinforced by three other operating companies, but had full charge of the system. All equipment was salved and repaired by gangs of repair men. Most of it was in fairly good shape as it had only been in the enemy's hands from Mar. 21.

Oct., 1918, proved to be a record month, nearly 50,000 tons being handled by the unit. All ranks put in long hours, especially the train crews, who were on 18 hour shifts, although there were 50 steam locomotives and 500 cars being operated each day. Relief came when the broad gauge operated into Bohain, the end of light railway steel, through Cambrai and St. Quentin. After the armistice, traffic still remained heavy as all ammunition and other salvage had to be brought back, but time was of no account, which allowed the crews to have a well deserved rest.

Canadian railway men undoubtedly were paid a splendid compliment in this important and final drive, as the 1st Section S.R.E. (58th Canadian Broad Gauge Operating Co.), was chosen with the 2nd Section S.R.E. (13th Canadian Light Railway Operating Co.), to handle all the railway trains from the beginning to the end of the drive. The former had, I understand, about 1,000 reinforcements from British operating companies and the latter had 800 British reinforcements.

Orders came through on Feb. 12, 1919, to proceed to Etaples, Feb. 15, for return to Canada, but owing to congestion, a hold order was waiting at the base, and the unit was held there until Feb. 28, when it moved to Le Havre and thence to Liverpool. From there leave was granted, and on the men's return they were sent to Rhyl, Wales, in drafts, for the various demobilization centers—all but the casuals arriving back in Canada by the end of May, 1919.

The original officers of the unit were:

Capt. R. McKillop, Officer Commanding, who, before enlistment, was Superintendent, Laurentian Division, C.P.R., Place Viger station, Montreal who since his return from the front, has been on extended leave of absence, spending most of the time at East Boston, Mass., in connection with the Smoke Jack Co., of which he has been General Manager, and is also a director. He returned to the C.P.R. service Nov. 1 and went to Chapleau, Ont., to relieve Superintendent W. C. Guthrie, during the latter's three weeks holidays, after which he was to report to headquarters in Montreal for further instructions.

Lieut. R. S. Richardson, Traffic Officer, who before enlistment, was Superintendent, Canadian Government Rys., Fort William, Ont., and has since returned there as Superintendent, Canadian National Rys.

Lieut. J. S. Hall, Adjutant, who before enlistment was employed by the C.P.R., occupying responsible positions in the operating and mechanical departments, as a student. He transferred to the British Tank Corps in England and was promoted to command a tank section. He is now living in Toronto.

Lieut. W. W. Webster, Locomotive Officer, who before enlistment was General Foreman, Steel Car Shops, C.P.R., Winnipeg, and is now Erecting Shop Night Foreman there.

The following officers were among the reinforcements:

T. J. Fouhy, Adjutant, who succeeded J. S. Hall. Before enlisting he was Accountant, Purchasing Agent and Secretary, Macdonnell and O'Brien, contractors, Montreal. After demobilization he was with O'Brien and Doheny, contractors, Montreal, on some work in the United States, for a short time, until, on account of ill health, he decided to take a holiday and went to the Western States for a trip.

Lieut. J. J. McDonald, who before enlistment was a conductor on the Grand Trunk Pacific Ry. at Prince Albert, Sask.

Lieut. J. W. Weeks, who before enlistment in the infantry was a fireman on the C.P.R., at Calgary, Alta., and has returned to that position.

The total casualties in the unit were 27 killed and 60 wounded, gassed, or disabled, by accidents, about 30% of the whole.

13th Light Railway Operating Co. Establishment.

Officers:—		
Captain	1	
Subalterns	4	5
Warrant officers:—		
Regimental sergeant majors	2	
Company sergeant majors	6	8
Sergeants		16
Rank and file:—		
Corporals	20	
Second corporals	40	
Lance corporals	8	
Sappers	172	240
Attached:—		
Batmen	5	
Drivers A.S.C.M.T.	2	7
		276

Total, 5 officers and 271 other ranks.

13th Light Railway Operating Co., Trades Schedule.

	Officers.	O.R.'s	Attached
Captain	1		
Subalterns	4		
Blacksmiths		3	
Blacksmiths helpers		3	
Boilermakers		2	
Boilermakers helpers		4	
Boilerwashers		3	
Carpenters		3	
Cleaners, locomotive		15	
Clerks, stenographers		4	
Clerks, general		6	
Cooks		4	
Coppersmith		1	
Dispatchers		5	
Drivers, I.C.E.		25	
Drivers, locomotives		20	
Firemen		21	
Fitters		8	
Fitters helpers		8	
Foremen, mechanical		2	
Guards and brakesmen		20	
Machine men		3	
Painter		1	
Plumber		1	
Shunters (conductors)		20	
Storekeepers		2	
Tinsmith		1	
Wagon inspectors		8	
Wagon repairers		6	
Yardmasters		10	
Electrical fitters		2	
Pioneers (camp details)		19	
Shoemaker		1	
Tailor		1	
Barber		1	
Draftsman		1	
Telephone operators		30	
Batmen			5
Drivers A.S.C.M.T.			2
Total	5	264	7

A Light Railway and a Broad Gauge Railway alongside one another.

Letters of Appreciation From the Higher Command.

From Lieut.-Col. F. B. Wilson, A.D. L.R., First Army, Nov. 24, 1917.

Dear Captain McKillop:—I was glad to receive your letter of the 20th inst., and to know that your company is comfortably settled in your new quarters, and also that you have a section to operate to yourselves. I am quite sure that you will make good. I cannot speak too highly of the work done by your company while in this army area, which was always most satisfactory. Your train crews and mechanics were of the greatest assistance to us, and we feel the loss of them very much indeed. I can only hope we will see you all back with us in the

near future. You and your company have the very best wishes from myself and my officers. Yours sincerely, F. B. Wilson, Lieut.-Col., A.D.L.R., First Army.

From Lieut.-Col. A. T. LeFevre, D.S.O., A.D.L.R., Third Army North, April 1, 1918.

Dear Captain McKillop:—I very much regret to hear about your losses at Marveuil. After bearing the heavy work entailed in extricating your company, and bringing the rolling stock and power units to safety, it is the worst kind of hard luck to lose men at Maroeuil through a chance shell. I should be glad if you would convey to your officers and men my appreciation of the excellent work they did in evacuation of valuable rolling stock, and my sincere regrets that the company has suffered to such a great extent and such severe losses. I am very glad to learn that Lieut. Macdonald performed such good services and shall take pleasure in drawing the attention of the D.L.R. to his excellent services. I am sending a copy of this letter to the D.L.R., and I am sure you will hear from him in reference to the all round good work of the company, and particularly in regard to the excellent work performed by all ranks during the evacuation of power and stock from the area, which I regret to say is now in the hands of the Germans. I hope later on, when we get going again, as I am sure we will, that the 13th Canadian Light Railway Operating Co., will be returned for duty to the 3rd Army North. At the present time we have got a sufficiency of operating troops, in fact at the moment some of them are doing grading and track work. Yours very sincerely, A. T. LeFevre, Lieut.-Col., A.D.L.R., 3rd Army North.

From Brig.-Gen. G. H. Harrison, C.M. G., D.S.O., Director of Light Railways, April 4, 1918.

Dear McKillop:—I want to very heartily endorse LeFevre's remarks to you, adding my sincere congratulations on the very splendid work done by you and your company. I am most awfully sorry about the extraordinary bad luck you had at Maroeuil, after completing such valuable work. Please convey my congratulations to all ranks of your company. Yours sincerely, G. H. Harrison, Brig.-General.

From Major M. P. Sells, Superintendent of Light Railways, Fourth Army, Nov. 18, 1918.

To Capt. R. McKillop, O.C., no. 13 Canadian Light Railway Operating Co.:—Now that hostilities have ceased, and we have ceased to be the important branch of the transportation service that we were, I wish to thank you, and the officers, n.c.o.'s and men under your command, for the magnificient way in which you responded to the very heavy demands made upon you during the recent operations which have brought us to the victorious end we all longed for. In spite of long hours on duty, difficult weather conditions, and shortage of power and fuel, the traffic was moved; traffic which could not have reached the forward area in any other way, on account of few and bad roads, and mined broad gauge railways, and the result was achieved only by the grit, perseverence and loyalty of all your company, who worked as one man and with one aim in view. I am grateful for your personal support on several critical and difficult occasions, and I heartily wish you and those who have so loyally worked under you all the good things that the blessing of peace will bring to the Empire. M. P. Sells, Major, R.E., Superintendent of Light Rys., 4th Army.

Editor's Note.—Robert McKillop was born at Perth, Scotland, Dec. 26, 1884. He entered C.P.R. service June 22, 1905, as draftsman in the Chief Engineer's office, and on Apr. 1, 1912, was promoted Assistant Engineer in charge of Building Department; Feb. 8 to Dec. 13, 1915, Division Engineer, Eastern Division, Montreal; Dec. 13, 1915 to June 12, 1916, Superintendent, District 2, Atlantic Division, Woodstock, N.B.; June 12, 1916 to Feb. 28, 1917, Superintendent, District 3, Eastern Division, Montreal, now Laurentian Division, Quebec District. On Feb. 28, 1917, he was granted leave of absence to take command of the 2nd Section Skilled Railway Employes, and went overseas Apr. 16, 1917, returning May 22, 1919. He was demobilized May 22, 1919, and transferred to the general list of officers, and the C.P.R. granted him an additional six months leave.

Terminal Power Plants.

By W. J. Harding, Chief Engineer, Ottawa Power Plant, G.T.R.

The very rapid development of the power generation and distribution business in the last 30 years has shown the difference between the actual life of power generating machinery and its useful life; or its life up to the time that it is superseded by larger and more economical apparatus or machines better suited to changed conditions of power generation. So much depends upon the design and the conditions of operation that no fixed values can be assigned to any equipment. Practice shows that most power plant appliances become obsolete long before the limit of their useful life is reached.

At present there is renewed agitation for the use of higher pressure steam, and a number of manufacturers are ready to supply steam at 600 lb. pressure and 200 degrees superheat. The turbine manufacturers are prepared to offer turbines to utilize this high pressure steam. Whether these changed conditions will result in a new type of station cannot be stated, but it is certain that additional operating economies may be secured, although the total economy when fixed charges are considered, may not be much better.

Probably the best illustration of compact power installation to meet the heating, ventilating, lighting, power and sanitary demands, is found in the plants of modern hotels, railway terminals and large office buildings. Data from a large number of plants show the costs of electric current, etc., to be made up of: labor, coal, handling ashes, water, oil, lamps, supplies and repairs, interest and depreciation, also, central station service, when used for periods of minimum consumption to allow shutting down of plant. Roughly the figures average 1-3 labor, 1-3 coal, 1-10 interest and depreciation, and the sum giving the cost of power as made up of the minor items. The mean load throughout the day is usually 50% of the full load. The maximum is only required an hour or two late in the afternoons during the winter months. It is customary to allow about 40% reserve over the estimated peak loads in designing the boiler plant.

Boiler Room Equipment—The type of steam generator will depend entirely upon conditions of service and space. Modern plants using high pressures invariably install water tube boilers; they are safe, more economical and will meet the varying demands better. For reasonably low pressures in small plants and for heating installations, the ordinary fire tube boiler meets the requirements, if overload capacity is not an essential factor. These boilers are cheaper and cost less for repairs than water tube boilers.

Mechanical Stokers — The difference between good and bad firing may easily amount to from 5 to 20% of the amount of fuel fired. Therefore, there is no investment around a steam plant that will pay better than the amount put out to produce good boiler appliances. Automatic stokers have been developed to a remarkable degree of perfection, and, when suited to the fuel, have an advantage over hand firing, in that under all conditions they are reliable, that they can be adjusted to either extremes and can be depended upon to operate continuously with the least amount of skilled labor. The economic saving will depend on the basis of comparison and operation. Whether a stoker will save labor in a fire hole depends upon the size of the plant; as a rule mechanical stokers are not labor saving devices in plants under 1,500 to 4,500 h.p. It should also be remembered that unless the type of stoker is suited to the kind of fuel obtainable, the maintenance of the stoker is likely to be extremely high, running in some cases to twice as high as fire room labor under hand fired conditions.

Boiler Feed Pump—It is the tendency of railway power plants to install reciprocating pumps; these are wasteful and inefficient It is not an uncommon thing to find the steam consumption of an ordinary 6 x 4 x 6 in. duplex pump to run up to 200 lb. per h.p. The modern turbine driven centrifugal feed pump requires almost no attention, and a large saving can be made due to the absence of pump valve renewals, etc. The steam consumption of the turbine oven, when running non condensing, is reasonably low, due to the high rate of rotation. Even when the pump is run as low as 1,800 r.p.m., the steam consumption of the turbine when run non condensing would not exceed 50 lb. per h.p., and the consumption will not increase with the age of the pump as is the case with reciprocating pumps.

Open Feed Water Heaters—The most profitable use to be made of exhaust steam is in heating the boiler feed water, since not only is heat conserved and fuel saved, but the boilers are protected from temperature strains, the water is purified by the driving off of the gases and the consequent precipitation of carbonates, the capacity of the boiler is increased in the ratio borne by the heat imparted to feed water from exhaust steam to the total amount of heat required to convert the cold water into steam, or from 10 to 16%. It is claimed that for every 11 degrees that the feed is heated there is a saving of 1% in fuel burned.

Refrigeration in Hotel Service—The capacity of a refrigerating plant is expressed in two ways, "ice melting effect"

and "ice making." For example—A 20 ton machine will produce the same cooling effect in 24 hours as the melting of 20 tons of ice, or in other words, will extract the same amount of heat from the brine as would be required to melt 20 tons of ice into water at 32 degrees. Theoretically the extraction of this amount of heat from 20 tons of water at an initial temperature of 32 degrees should change it into ice, but in practice these are various losses not present in the simple process of cooling, so that it is customary to allow for twice the boiler power per ton for ice making as for the process of cooling or ice melting effect; the indicated h.p. required per ton refrigeration depends upon suction and condensor pressure which in turn are governed by the temperature and amount of condensing water used.

Power Plant Records—One of the most essential things in power plants is the systematic record of operations by daily logs and recording apparatus, and when the results are published on engine room bulletin boards, it creates a rivalry between the different shifts and promotes a desire among the men for higher efficiency. The importance cannot be overestimated. In this way affairs in the plant are lifted from the realms of guess work to certainty. While the systems adopted for ordinary plants may be simple, the records should be arranged for convenient reference so that comparison of results with past performance may be made. Thus it is possible to note the effects of changes in equipment or improvements in economy.

Heating With Exhaust Steam From Power Plant—Exhaust steam heating by vacuum systems has developed rapidly during the last few years. With its decided advantages over the old style methods of heating, it practically predominates the heating field. The advantages of the vacuum system over the gravity system may be summarized as follows:—1. Positive circulation by prompt removal of air and condensation through the vacuum returns. 2. Smaller return pipes. Asbestos covering on returns can be eliminated so that the condensation can be handled by the pumps without the injection of cold water. 3. Increased economy, as back pressure on engines can be reduced to practically atmospheric. 4. Air binding and water hammer trouble removed.

The Dunham vacuum system is in use at one large plant I am acquainted with. It was installed in the place of the old gravity system, in which we used high pressure steam, which was unsatisfactory, wasteful and difficult to control under quick changes of temperature. The vacuum is maintained by a Tod-Attwood 6 x 8 x 10 in. pump and controlled by a ¾ in. Fisher vacuum pump governor, which is operated by a diaphragm and actuated by the vacuum produced in the return header. The condensation is removed by the operation of a thermostatic trap connected to each radiator. This trap is comprised of a shell, consisting of a body and cover. Attached to the cover is a hollow disc or diaphragm, containing a combination of volatile fluids which vaporize at about 200°. Attached to this diaphragm is the valve of the trap, which raises and lowers on its seat as the disc or diaphragm expands or collapses. The condensation from these traps is pumped into a sump, from which an electric centrifugal pump actuated by a float delivers it to the boiler feed pump through a Cochrane heater. During the winter the hot water heater supplying the offices is heated with this condensation which passes directly through the chamber and is connected to the vacuum pump. The total square feet of radiation in station is 6,200. Low pressure condensation equals 0.25 lb. per sq. ft. per hour. High pressure condensation equals 0.4 lb. per sq. ft. per hour, showing an approximate saving of 35%.

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

Birthdays of Transportation Men in December.

Many happy returns of the day to:—

E. T. Agate, ex-Assistant Superintendent, Lake Superior Division, Canadian Northern Ry., Capreol, Ont., now of Toronto, born at Pittsford, N.Y., Dec. 7, 1874.

A. G. Albertsen, General Agent, Passenger Department, C.P.R., Minneapolis, Minn., born at Copenhagen, Denmark, Dec. 31, 1887.

J. H. Barber, Engineering Department, C.P.R., Montreal, born at Cobourg, Ont., Dec. 20, 1856.

H. E. Bissell, Land and Tax Agent, Grand Trunk Pacific Ry., Winnipeg, born near Noyan, Que., Dec. 31, 1867.

N. E. Brooks, ex-Engineer, Maintenance of Way, Western Lines, C.P.R., now at Sherbrooke, Que., born there, Dec. 25, 1866.

W. W. Butler, President, Canadian Car and Foundry Co., Montreal, born at Danville, Ohio, Dec. 9, 1862.

J. M. Cameron, General Superintendent, Alberta District, C.P.R., Calgary, born at Lochabar, N.S., Dec. 18, 1867.

W. C. Casey, General Agent, Passenger Department, Canadian Pacific Ocean Services Ltd., Winnipeg, born at Moncton, N.B., Dec. 12, 1882.

G. W. Caye, General Purchasing Agent, G.T.R., Montreal, born at Malone, N.Y., Dec. 1, 1865.

A. H. Foster, Manager, Brantford Municipal Ry., Brantford, Ont., born at Guelph, Ont., Dec. 24, 1888.

G. C. Gahan, Assistant General Auditor, C.P.R., Montreal, born there, Dec. 28, 1874.

W. H. Gardiner, City Freight Agent, C.P.R., and District Freight Agent, Esquimalt and Nanaimo Ry., Victoria, B.C., born there, Dec. 6, 1859.

A. S. Goodeve, member Board of Railway Commissioners for Canada, born at Guelph, Ont., Dec. 15, 1860.

A. J. Gorrie, ex-Superintendent District 1, Transcontinental Division, Canadian Government Rys., Quebec, now of Toronto, born at Raith, Kirkcaldy, Scotland, Dec. 10, 1868.

W. H. Grant, General Tie Agent, Canadian National Rys., Toronto, born at Acton, Ont., Dec. 8, 1858.

F. P. Gutelius, Federal Manager, Delaware & Hudson Rd., U.S. Railroad Administration, Albany, N.Y., born at Mifflinburg, Pa., Dec. 21, 1864.

Jas. H. Hall, President, Westerian Transportation Co., Ltd., Ottawa, Ont., born at Hawkesbury, Ont., Dec. 20, 1863.

J. T. Hallisey, Superintendent, Halifax Division, Maritime District, Canadian National Rys., Truro, N.S., born at Beaver Bank, N.S., Dec. 29, 1862.

D. B. Hanna, President, Canadian National Rys., Toronto, born at Thornliebank, Scotland, Dec. 20, 1858.

R. W. D. Harris, ex-Trainmaster, Moose Jaw Division, Saskatchewan District, C.P.R., Moose Jaw, now of Tappen, B.C., born at Victoria, B.C., Dec. 12, 1879.

J. J. Hennigar, District Freight Agent, Great Lakes Transportation Co., Windsor, Ont., born at Topeka, Kan., Dec. 21, 1884.

L. S. Landers, Acting Division Engineer, Canadian National Rys., Edmundston, N.B., born at Farnham, Que., Dec. 15, 1888.

A. McCowan, Master Car Builder, Western Lines, Canadian National Rys., Winnipeg, born at Perth, Scotland, Dec. 5, 1868.

J. T. McGrath, ex-Superintendent of Motive Power and Equipment, Chicago and Alton Rd., Bloomington, Ill., born at Toronto, Dec. 6, 1869.

A. T. McKean, Division Freight Agent, C.P.R., Winnipeg, born at St. John, N.B., Dec. 18, 1886.

Capt. R. McKillop, formerly Superintendent, Laurentian Division, Quebec District, C.P.R., Montreal, then Officer Commanding 13th Canadian Light Railway Operating Co., now acting as relieving Superintendent, Eastern Lines, C.P.R., born at Perth, Scotland, Dec. 26, 1884.

J. M. MacArthur, Superintendent, Medicine Hat Division, Alberta District, Medicine Hat, Alta., born at Toronto, Dec. 8, 1885.

H. M. MacCallum, General Freight Agent, Canadian Pacific Ocean Services, Ltd., Toronto, born at Huntingdon, Que., Dec. 3, 1882.

A. D. MacTier, Vice President, Eastern Lines, C.P.R., Montreal, born at Blairgowrie, Scotland, Dec. 27, 1867.

J. C. O'Donnell, Superintendent, Divisions 2 and 3, Central District, Canadian National Rys., Winnipeg, born at Cobden, Ont., Dec. 17, 1879.

Alfred Price, General Manager, Eastern Lines, C.P.R., Montreal, born at Toronto, Dec. 6, 1861.

W. J. Radford, Assistant Superintendent, Toronto Suburban Ry., Toronto, born at Boldre, Hants, Eng., Dec. 23, 1870.

G. D. Robinson, ex-European Freight Agent, Canadian Pacific Ocean Services Ltd., Montreal, born at St. John, N.B., Dec. 7, 1877.

G. E. Smart, General Master Car Builder, Canadian National Rys., Toronto, born at Edinburgh, Dec. 23, 1873.

W. Tansley, Car Service Agent, New Brunswick District, C.P.R., St. John, N.B., born at Shelburne, Ont., Dec. 27, 1872.

W. H. Thompson, Chief Dispatcher, C.P.R., Edmonton, Alta., born at Bobcaygeon, Ont., Dec. 26, 1886.

M. F. Tompkins, General Freight Agent, Eastern Lines, Canadian National Rys., Moncton, N.B., born at Margaree, N.S., Dec. 6, 1878.

H. H. Vaughan, ex-Assistant to Vice President, C.P.R., Montreal, now Vice President and General Manager, Dominion Copper Products Co., and director, Armstrong Whitworth of Canada, Ltd., born at Forest Hill, Essex, Eng., Dec. 26, 1868.

R. C. Vaughan, Assistant to President, Canadian National Rys., Toronto, born there, Dec. 1, 1883.

A. P. Walker, Assistant Engineer, Ontario District, C.P.R., Toronto, born at West Hartlepool, Eng., Dec. 9, 1860.

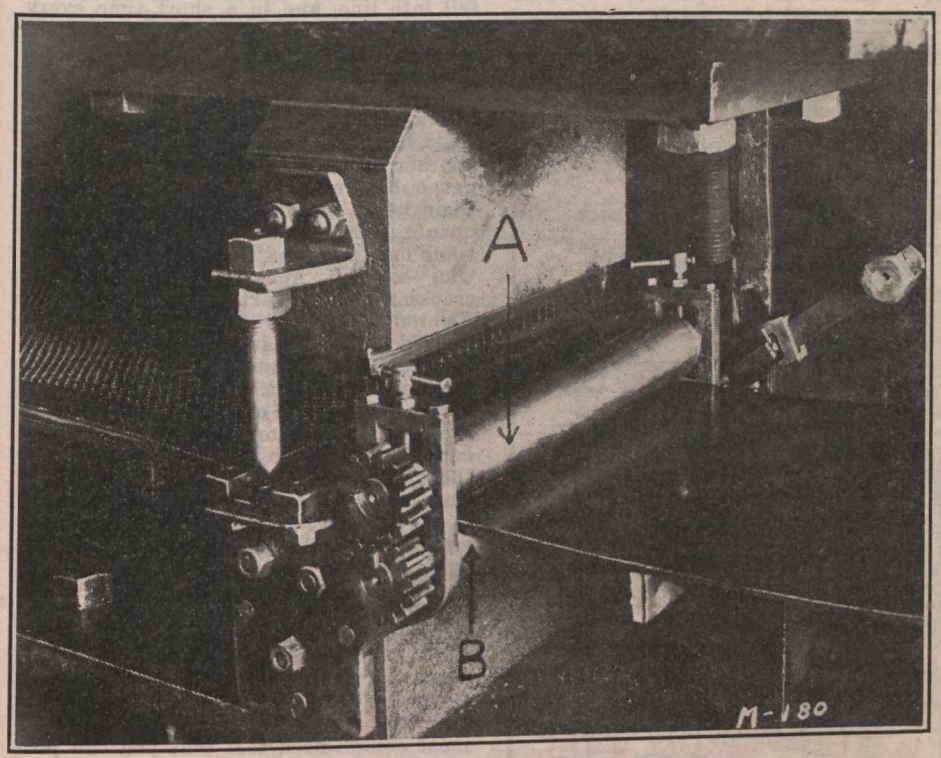
J. B. Way, Freight and Ticket Agent, C.P.R., Sault Ste. Marie, Ont., born at Operating Co., now acting temporarily as relieving Superintendent, Eastern Lines, C.P.R., born at Perth, Scotland, Dec. 26, 1884.

Railway Mechanical Methods and Devices.

Perforating Plates in Railway Shop.

The device shown in the accompanying illustration is in use for perforating plates used in connection with grease cellars in driving boxes. The largest plates perforated are 15½ in. wide, and can be made any convenient length, the standard length used being 8 ft.

For punching, the sheets are placed on a guideway and entered between the feed rolls A and B, which control the movement of the sheet into the punch at each opening stroke. After starting the operation, the sheet is automatically fed the proper amount by each successive stroke of the punch.



Punching device for making perforated plates.

There are 4 rows of ¼ in. punches, each row containing 25, so that a total of 100 holes are punched at each stroke of the machine. The punches are staggered as to length, so as to break up the force of the blow. The die is a solid steel plate, in which holes have been drilled, reamed and counterbored, for relief on the bottom side, to suit the position of the punches. With this device, one man handles the work without aid, and gets out the plates at the rate of about 10 an hour, making a cost of approximately 6c a plate. One of the plates upon which the punching has been finished is shown at the base of the punch press. From paper read at American Railway Tool Foremen's Association's meeting, by J. J. Sheehan, Roanoke shops, Norfolk & Western Rd.

The Dominion Atlantic Ry. has had prepared a series of films on agricultural operations along its lines. The films, together with projecting machines, operators and lecturers are being offered to farmers' clubs and other organized meetings throughout the country.

Standardization of Tools.

In this day and age, the individual idea should be subordinated to such an extent that we should adopt practices that would give better efficiency, reduce the cost of output and on the other hand simplify the tool situation whenever possible. It has been plainly shown that the adoption of standard practices by the Railway Master Mechanics' Association was a good move. When a standard practice was adopted by that body, it was carried out to the letter on all railroads and considered standard.

In the past eight years the members of the American Railway Tool Foremen's Association have attended meetings and returned to their respective homes and made reports to their local officers on these subjects but unfortunately they did not get the co-operation that they should have received. As all the tool foremen who attend these conventions receive instructions from their superiors to attend, they should be invested with such confidence that when they make a report to their superiors that a certain tool has met with the approval of the association and been adopted as standard, the higher officers should put forth an effort to put this into practice. If we could standardize the tool equipment on all American railways and use the same methods and practices there is no question that it would eliminate a great deal of the making of unnecessary tools. While I appreciate the fact that the tool room foremen and the superintendents of motive power have a certain amount of self-pride in the making of all tools for their respective railways, nevertheless, the progressive man of today must be able to give and take whenever necessary in order that he may develop a method that will get proper production.

In the automobile industry, where all parts must be interchangeable, the first practice is to get the tools made to the standard, before starting production, and these tools are maintained to an extremely high standard of accuracy. If this is found to be good practice from a manufacturing standpoint, why is it not a good practice in the railway shops? There is only one solution and that is co-operation and the insistence on the adoption of practical methods and standards.

On the Atchison, Topeka & Santa Fe, in order that we may get the proper results, it has been found very essential that the tools be standardized, and, whenever possible, drawings are made of the tools and then submitted to the tool room foreman, so that they will be made up in a standard way. It is further found advisable that only tools which cannot be secured from the manufacturer for a reasonable price should be made in our tool room. It is not good practice for a railway shop tool room to manufacture tools that can be secured from the manufacturers for the same price or less than it would cost to make them locally. In some shops such tools are made, but I consider it false economy, due to the fact that there is a certain amount of loss incurred by the tool room, and when standard tools are secured from the factory all the possibility of loss is overcome, due to the fact that all tools are furnished in first class condition and free from flaws and defects.

There is a vast difference of opinion between railways in regard to a standard locomotive frame reamer. The greatest difference seems to be in the length over all and in the taper. If a standard length and taper of locomotive frame reamer could be universally agreed on, it would be possible to eliminate the excess cost due to ordering reamers of special type from the manufacturer as well as eliminating the carrying of many different lengths of reamers locally in the tool rooms.

For illustration, on the Santa Fe lines a standard reamer has been adopted, with a left hand spiral flute, and of a standard length that will take care of the maximum and minimum requirements. Heretofore, there were a great number of different lengths which have been eliminated by standardization. By the adoption of the left hand spiral fluted reamer, the breakage has been reduced to about 20%. While using the straight fluted reamer, trouble was encountered due to the chipping out of portions of the flute and also chattering, while now this has all been eliminated, for the left hand spiral retards the reamer to such an extent that it does not gouge or seize, especially while reaming steel frames on locomotives. All our reamers are tapered 1-16 in. in 12 in. and I feel confident that with the proper co-operation of the mechanical heads of the various railways throughout the continent, this point could be agreed upon. This standardization not only pertains to reamers, but also to all other tools and equipment.

The foregoing paper was read before the American Railway Tool Foremen's Association recently, by E. J. McKernan, Supervisor of Tools, A.T. and S.F. Rd., Topeka, Kan. In the discussion which followed, several questions were raised regarding standard forms of reamers. There was some difference of opinion regarding the relative advantage of flutes in the form of spirals having short and long pitches. The majority favored long

spirals, on reamers used with air drills, but the statement was made that the shorter spirals reduced the time, but required heavier thrust to feed them.

Welding Boiler Tubes With Gas Torch.

It may prove of interest to describe a method we have developed for welding 4 in. boiler tubes with the acetylene torch.

We cut the ends off square in a power hacksaw, clean the rust and scale off the long pieces with a file, and take short pieces to a grinding wheel and brighten the surface ¼ in. back from end.

We have a clamp made from a piece of 4 in. standard pipe, about 24 in. long, split longitudinally, with hinges on one side and slots with bolts and handled nuts on the other. The clamp has three 1½ in. holes near the center, and it is placed on the tube to be welded, the 1½ in. holes over the joint. The torch is applied to the 1½ in. holes, and the tube "tacked" in three places. The clamp is then removed and the welding performed easily; an assistant turning the tube.

We use 3-16 in. welding rods and can weld 50 tubes with 100 ft. of oxygen; time, about 10 minutes for each tube. The welder prefers the square end to the beveled end and thinks it takes less steel and less gas.

We can flatten these tubes under a power hammer where the weld is, without showing a fracture.—A. H. Halladay.

Promoting Safety in the Shop.

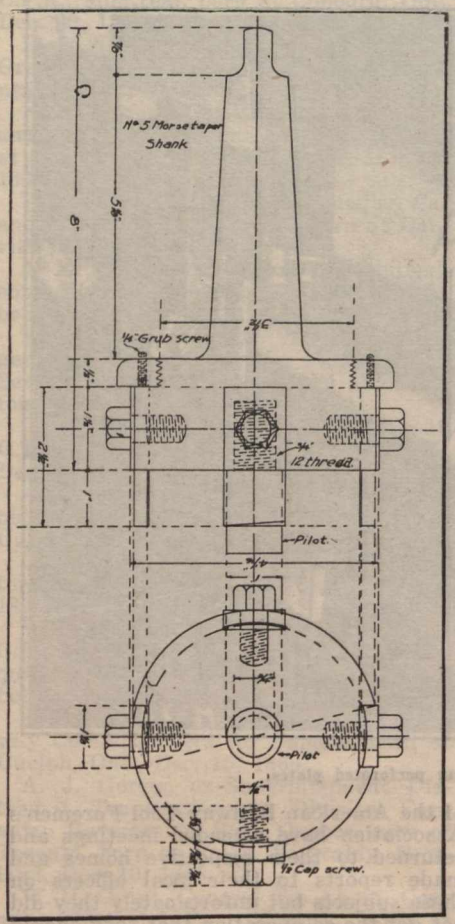
We must not forget, while manufacturing new devices and tools, that in each case we should keep in mind safety first. The prevention of injuries should be considered even more than the efficiency of the tool or device. Do you ever inspect the tools that are in daily use in your shop to see that they are in safe condition? The tool foreman should make this his business, as he is the most capable of determining the safety of tools. Our shop safety committee demands a report from the tool foreman, on tools in all departments, and this has brought about wonderful results in a decrease of injuries. The blacksmith shop, boiler shop, and even the different tool rooms are good places to find defective tools. There are numerous things in the shops and locomotive houses that are unsafe at their best, and we must see that they are at their best.—J. C. Beville.

Cutter for Tube Sheets, Canadian National Railways.

The body of the cutter, a plan of which is given herewith, is made of mild steel, and has four cutters bolted at right angles. The shank is drawn down to a Morse standard taper and is used in four spindle multiple drilling machine or radial drill. Four slots are milled in the sides for cutters, which are of high speed steel and are bolted down, then the hole is put in a lathe and the cutters turned down on the lathe to form, and ground slightly for clearance. The cutters can be slightly adjusted by slipping a filler between the cutter and the face of the tool. The cutters are ground to follow one another, and each engages at the same time, cutting more metal than the ordinary double cutter tool. With this cutter three sheets or 33 holes can be cut without regrinding the tool. We are indebted for the foregoing information and for the drawing from which the illustration was made, to W. H. Hollingshead, who, when they were furnished, was Foreman, Tool Room, Canadian Northern Ry. Shops, Winnipeg.

The Tool Room's Functions.

A tool room, to my idea, takes care of the tools which are used in the shop. The shop may be a machine shop, or it may be a locomotive erecting shop, or it may be a car repair track. The tool room cares for the tools that are used by the productive workers. I recall to mind one tool room that is under the charge of one man. It is about 10 x 10 ft. and



Cutter for Tube Sheets, Canadian National Railways.

his sole duty is to repair dies for bolt cutting machinery. I recall to mind another tool room that has more machinery than I have in my shop. Both rooms are efficient and serve their purpose.

The province of the tool room is to make such tools as may be needed, to maintain them in such a condition that when they are wanted, they are ready for service, and to have them on hand, so that there will be no delay to the men who are to use them. I call to mind a hurry-up job that was not done on time; on investigating the matter, the excuse was made "We could not find our tools." On looking into the matter in detail, it was found that the excuse was correct. The practice had been for a man to pick up the particular tool that he wanted, and use it, and leave it where he got through with it. If somebody else wanted it, and remembered where it was last used, he might find it, and if he did not find it, then he kept hunting until he finally located it. The result was an enormous amount of wasted time chasing up tools. There was no tool room for this particular department, and there never had been. The men were consulted with and were asked, "If you are given a tool room, a place to put your tools, will you put them there?" A tool room was built in the end of a shed for storing tools—it was not a manufacturing department and there were no machine tools in it whatever. It was simply a place to keep the special articles that were needed at various times in a car repair yard. The majority of the men did as requested. When they took a tool out of the tool room, and used it, they put it back. A few, however, did not have time to take tools back. The majority of the men who were living up to the rule made it so unpleasant for those who were careless that they fell into line, and in a short time every tool belonging in the tool room was put in its proper place when the men were through using it.

The tool room can play a great part in the way of safety. The men who use tools, hammers, chisels, and one thing and another, have their own kit. These tools get out of order. They become dulled, their heads become burred up, and are unsafe. Every one can recall to mind some man who has had an eye injury, or who has cut himself badly from the cracking off of a part of a cold chisel. If the tool room will carry in stock a lot of cold chisels, sharpened and ready for service for the man who turns in a defective chisel, that man has saved a lot of time. The cold chisels he has received are ready to go to work. He does not have to go out to the grindstone, or to the blacksmith shop, and spend a lot of time getting his chisels dressed. He turns in his defective equipment, and gets new equipment in its place, and goes back to work without wasting time. This is the one thing that I have in mind; the importance of the tool room having things ready when wanted, and in good condition. The tool room motto should be, "A place for everything, and everything in its place." That refers to everything, from the commonest cold chisel up to the most complicated tool that you can possibly make. If the tools are in good condition, and ready for use, the tool room has absolutely performed its function.—J. A. Carney.

G.T.R. Superannuation Fund—A circular is reported to have been sent to members of the G.T.R. Superannuation and Provident Fund Association, announcing an increase of rates of from 1½ to 2½% to date from Jan. 1, 1920, and a change in the method of computing the retiring allowance. Following this an announcement is reported to have been made from the offices in Montreal, Nov. 6, that owing entirely to the large increases in the rates of pay that have been made recently involving corresponding increases in the returning allowances for which employes would be eligible, it was deemed advisable to have an investigation by an actuary. As a result a revision was made in the method of computing the retiring allowance, and the men's contribution to the fund had been restored to what it was prior to Jan. 1, 1914. The fund, it was stated, had been economically managed, and is in a strong financial position.

The Board of Railway Commissioners has dismissed the complaint of Wilberforce, Ont., residents in regard to train service on the Irondale, Bancroft and Ottawa Ry. (C.N.R.)

The Use of Bronze for Valve Snap Rings and Piston Surfaces, and Bull Rings in Large Cylinders, to Prevent Rapid Wear and Cutting of Cylinder and Valve Bushings.

By C. E. Fuller, Superintendent Motive Power, Union Pacific Rd.

Undoubtedly one of the most difficult and perplexing problems relating to locomotive operation is the proper and economical maintenance of pistons and cylinder walls, valves and bushings—those parts which, by their proper relation of sizes, and constantly varying relative positions, assume the responsibility for the correct and economical use of the steam which the boiler has generated. In this region may all too frequently be located the greatest spendthrifts on the entire locomotive.

Since the introduction of modern outside valve gears has eliminated much of the old-time faulty and lame valve setting, our friends within the cylinder have easily taken first place. At no other point on the locomotive can the losses become so great, or so quickly aggravated, due to rapid cutting and wear; nor has the introduction of superheated steam, with increasing size cylinders, tended to ameliorate conditions.

Cylinder working temperatures, which have so direct a bearing on rate of wear, have increased tremendously in the last 10 years. The extensive adoption of cylinder bushings on modern power indicates the enormous increase in cylinder barrel wear and a desire to save cylinders, which otherwise would soon wear thin. Extended piston rods to carry the weight of pistons in large cylinders are a compromise, and there appears a trend toward their abandonment. Decrease in unit pressure between piston and cylinder walls can only be attained at the expense of increased reciprocating weight and dynamic augment.

Cylinder and valve lubrication under increased superheat temperatures is surrounded by many difficulties.

With these facts in mind, the Union Pacific Rd. Mechanical Department, began experiments in 1913 with bronze valve snap rings, and in 1915 with bronze surfaces for pistons. No originality is claimed in this connection, as perhaps many of those present have experimented more or less along similar lines, but the results obtained are worthy of some consideration.

Bronze Valve Snap Rings.

Two formulas have been used:

COMPOSITION "A"

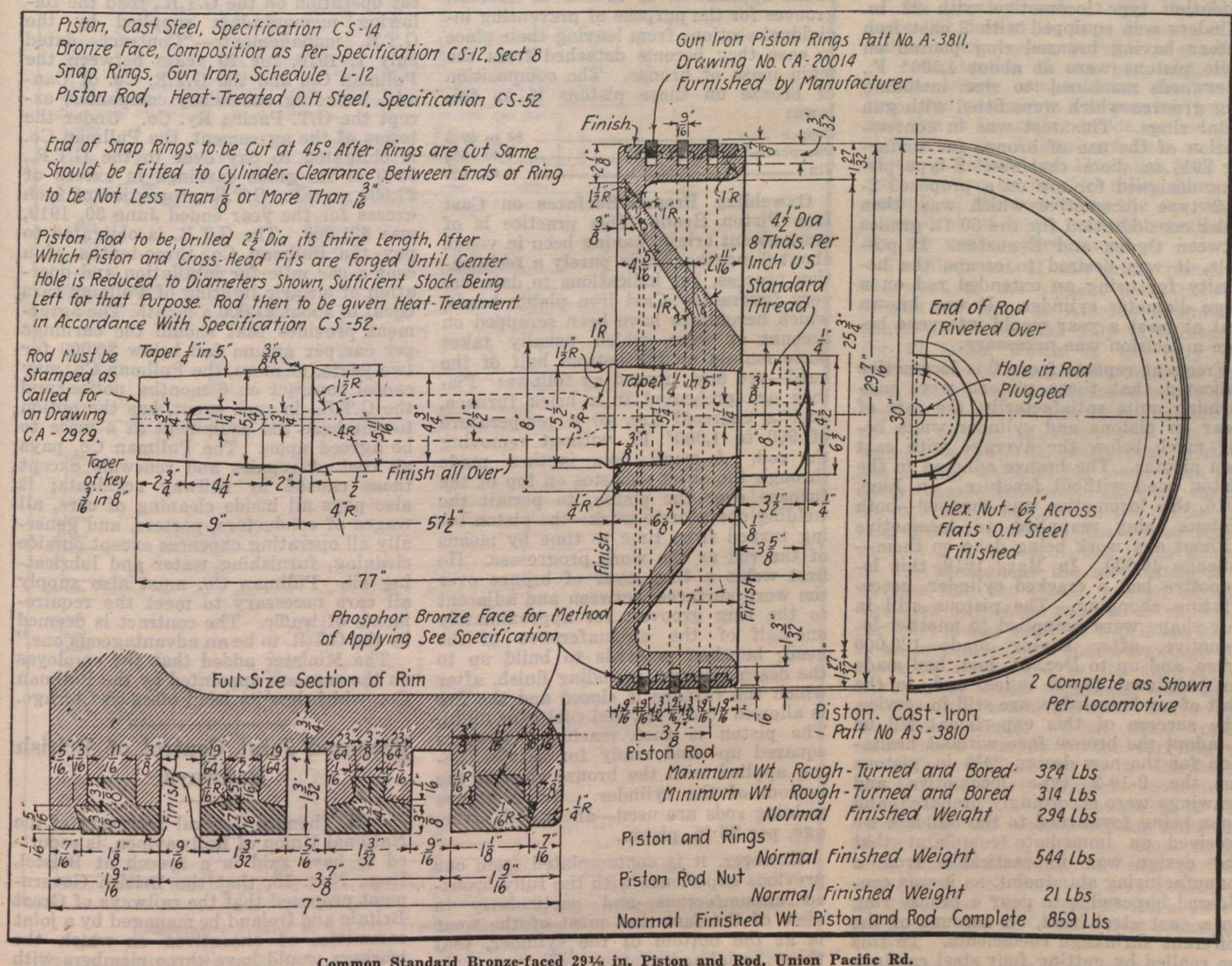
Copper	82.96%
Tin	14.66
Phosphor	0.118
Lead	none
Impurities	2.26
Total	100%

COMPOSITION "B"

Copper	80.80%
Tin	5.83
Phosphor	0.10
Zinc	4.54
Lead	6.58
Impurities	2.15
Total	100%

Either composition gave good wearing qualities, but composition A has decided advantages in elasticity. We believe, however, that there is room for further improvement in the composition of the most suitable alloy for this purpose.

Valve rings are of the usual L-section for 15 in. piston valves of cast iron, working in gun iron bushings. Information collected in 1915, or previous to the recent rise in wage rates and material,



Common Standard Bronze-faced 29½ in. Piston and Rod, Union Pacific Rd.

relative to comparative mileage and cost of cast iron and bronze valve rings may be of interest, showing that against 117 cast iron rings, making 216,495 locomotive miles, there were 45 bronze rings, making 381,337 locomotive miles—an increased mileage in favor of the bronze ring of 358%.

The average cost per 1,000 locomotive miles was: Bronze ring, 8.73c; and cast iron ring, 20.0c, or an increase of 129% for the cast iron ring. This test covered 13½ months, during which no valve cages were removed where bronze rings were used.

A Pacific type locomotive was equipped with bronze rings—composition A, Apr. 13, 1916: Rings removed, worn out —Mar. 22, 1918, with a mileage of 145,-285.

Piston Surfaces—In Aug., 1915, a consolidation type locomotive with 22 in. cylinders was equipped with 2 cast iron pistons having bronzed ring poured on while pistons were at about 1,500° F., afterwards machined to size including ring grooves which were fitted with gun metal rings. This test was in contemplation of the use of bronze for surfacing 29½ in. diam. cast steel Z-type pistons, designed for use on a proposed 2-10-2 type locomotive which was then under consideration for the 60 ft. grades between Ogden and Evanston. If possible, it was desired to escape the necessity for using an extended rod on a large diameter cylinder. It was known that at least a year would intervene before a decision was necessary.

Frequent reports from this locomotive indicated that these pistons were performing quite satisfactorily, the rate of wear on pistons and cylinder walls being much below the average with cast iron pistons. The bronze adhered to the piston head without fracture. In June, 1916, this locomotive was shopped—both pistons being reapplied to locomotive without any work being done on them—mileage 40,000. In Mar., 1918, this locomotive had a cracked cylinder, necessitating shopping. The pistons still in fair shape were reapplied to another locomotive, after having made 120,000 miles, and up to Dec. 31, last, had made an additional 19,000 miles, and, to the best of my knowledge, are still in service. The success of this experiment led us to adopt the bronze face without hesitation for the new design 29½ in. pistons for the 2-10-2 type locomotive, and drawings were accordingly prepared, and upon being forwarded to the builders we received an immediate complaint that the design was impracticable from a manufacturing standpoint, as it was considered impossible to pour a bronze ring on a cast steel head, on account of the different shrinkage coefficients. To this we replied by getting four steel castings from the same pattern, successfully pouring and machining them—sending photographs of the finished pistons to the builder as evidence, then putting the pistons in stock for the anticipated locomotives.

The builders had no difficulty in following the design, and 10 locomotives arrived, equipped with the bronze faced cast steel pistons, in the autumn of 1917, and were placed in hard mountain service, where drifting is necessary for 60 miles, with little let-up. After being in service 6 months the bronze had worn down to the cast steel lip at the edges of the piston, between 1-32 and 1-16 in. Pistons were then reversed, and gave 4 or 5 months' additional service. Since then, from time to time, this cast steel lip has been turned back slightly, exposing additional bronze surface, and at the end of 19 months, several of these pistons are still in service, not having reached the limit of wear with their original bronze surface. The piston centers, however, are all intact and apparently capable of indefinite service. These pistons have made over 60,000 miles in most difficult service, and no cylinders have been rebored; in fact, showing remarkably little wear. Incidentally, the use of bronze permitted the adoption of a very light design of piston, which though 29½ in. diam. weighs only 544 lb. complete, without rod.

The accompanying plan indicates the detail application of bronze in dovetail grooves for the purpose of preventing individual sections from leaving their place in case they become detached from the main mass of bronze. The composition of bronze on these pistons is as follows:

Copper	86 to 89%
Phosphor—Tin	4 to 6%
Tin	4 to 6%

Oxwelding Bronze Surfaces on Cast Iron Piston Heads—This practice is of more recent origin, having been in vogue about 6 months. It is purely a reclamation process, but indications to date are very favorable. Cast iron piston heads, which heretofore have been scrapped on account of wear—which usually takes place mainly on the bottom half of the head—are now treated as follows: Pistons are preheated in a brick furnace, over a charcoal fire, to a temperature of 900 to 1,000° F., without removing the rod. A small hole is then made through the sheet asbestos on top of the furnace over the piston, to permit the welding operator to work—the piston being turned from time to time by means of the rod as the work progresses. He first welds a thin layer of bronze over the worn surfaces, between and adjacent to the ring grooves, for approximately one-half of the circumference of the head; he then proceeds to build up to the desired height, including finish, after which the furnace is closed and the fire is allowed to die out and cool over night. The piston is then machined, grooves squared up—and ready for service. being applied with the bronze shoe to the bottom of the cylinder. Tobin bronze welding rods are used—about 8 lb. average, per 26 in. piston.

However, it is contemplated from our previous experience with the fully bronzed circumference, and particularly in view of the fact that most of the wear is at the bottom of the cylinder, that these reclaimed pistons will not only show a considerable increased mileage, but will also show a material saving in cylinder barrel wear, thus increasing the mileage between reborings.

A 26 in. worn cast iron piston can be treated in accordance with the above process for approximately $9.35, while replacements with a new piston of the same design would cost $27.86. This results in a saving of $18.51, besides resulting in really a better piston than the original, on account of decreasing tendency toward wearing the barrel of the cylinder. Up to date about 50 pistons have been thus reclaimed and put into service and there has not been a single failure reported.

By the use of bronze for valve snap rings and for piston surfaces, we have been able to materially reduce the rate of wear and increase the life of the cyinder and valve bushings, as well as the pistons, and keep locomotives longer in service with a maximum of power due to tight and properly fitting parts.

The foregoing was read as an individual paper at the recent railway mechanical convention at Atlantic City, N.J.

Grand Trunk Railway's Contract With Pullman Co.

The Minister of Railways, in replying, in the House of Commons, recently, to a request for information as to Pullman car operation on the G.T.R., read the following memorandum supplied by the G.T.R. management:—"Contract dated July 1, 1916, for 20 years between the Pullman Co. and the G.T.R. Co. of Canada, including subsidiary companies, except the G.T. Pacific Ry. Co. Under the terms of the agreement, the Pullman Co. is obligated to pay over to the G.T.R,, 50% of its gross earnings in excess of $7,500 a year. G.T.R. proportion of such excess for the year ended June 30, 1919, was $31,000. The G.T.R. is obligated to pay the Pullman Co. three-tenths of a cent a car mile for intallation and operation of electric lighting of Pullman cars equal to about $1,000 a month. The agreement provides that should the earnings per car per annum fall below $6,000 for two years, or more, the Pullman Co. may cancel contract on 6 months notice, and the G.T.R., in such event, has the option to purchase the equipment at a price to be agreed upon. The Pullman Co. pays all cost of repairs and renewals except those caused by railway accidents; it also pays all inside cleaning of cars, all wages of conductors, porters, and generally all operating expenses except outside cleaning, furnishing water and lubricating oil. Pullman Co. must also supply all cars necessary to meet the requirements of traffic. The contract is deemed by the G.T.R. to be an advantageous one."

The Minister added that the employes on the cars are appointed by the Pullman Co., which has its head office in Chicago.

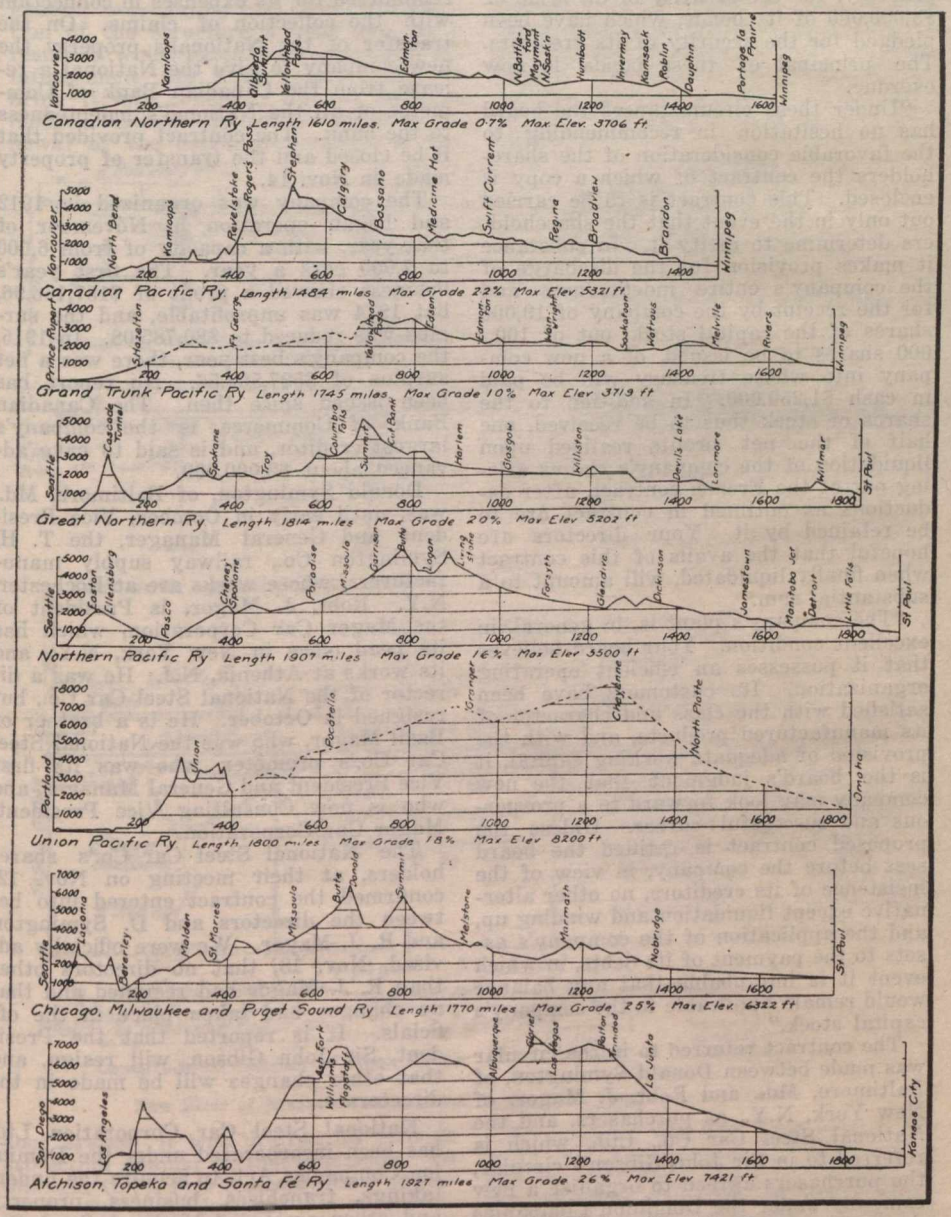
Proposed Joint Control of British Railways.

J. H. Thomas, General Secretary of the National Union of Railwaymen, is reported to have said in a speech at Bristol, Eng., Nov. 15, that the British Government proposed that the railways of Great Britain and Ireland be managed by a joint committee of executives on which the workers would have three members with powers equal to those of the general managers. The government plan, he also said, would create a joint board, composed of 5 general managers of railways and 5 delegates of the locomotive men and the National Union of Railwaymen to negotiate all matters concerning service. Any dispute arising would be referred to another board of 12, comprising 4 representatives appointed by the railways, 4 appointed by the men and 2 appointed to look after the general public's interests. A London cable of Nov. 19, stated that the National Union of Railwaymen had decided to accept the government's proposal.

The Mountain Gradients on the Canadian Northern Railway System.

By Thos. H. White, Chief Engineer, Canadian Northern Pacific Railway, Vancouver.

To anyone who is interested in any way in the capacity of the railways crossing the North American continent, the Canadian Northern Ry. gradients from the plains east of the Rocky Mountains to the Pacific Ocean, cannot be too insistently presented as an evidence of what the future of that railway must be, in competition with all other transcontinental railways, either existing now, or which are possible in the future.



Comparative Profiles of Railways crossing the Western Mountain Ranges.

Comparative profiles showing graphically a comparison of the existing lines have been prepared and distributed in a very limited way to those only in close touch with the C.N.R., and it seems desirable that this feature should be made more public so that it would be a matter of common knowledge and comment. Such an eminent authority as A. H. Smith, then President of the New York Central Rd., who examined the C.N.R. with the purpose of reporting on it, which he did very thoroughly, expressed himself as being astonished that such a railway was a possibility through such mountain ranges as exist in British Columbia. When that was his attitude of mind towards the subject, anyone, less versed in railway conditions on this continent, may well be considered in need of information.

An explanation of the physical features which made possible the low gradients from the crossing of the Rocky Mountains, via the Yellowhead Pass to the sea, may be shortly stated as follows: Behind or west of the Rocky Mountains and paralleling them throughout the whole length of British Columbia, and beyond into the United States to the south and north into Alaska, is a deep depression, which has been named the Rocky Mountain trench, west of which rise the high ridges of the mountains in central British Columbia between this trench and the Pacific coast. Everywhere this trench has to be crossed by any railway from east to west. It is drained by the Kootenay, the Columbia and the Canoe Rivers tributary to the Columbia to the south, and to the north by the Fraser River, and tributaries of the Pine River, the Parsnip and the Findlay Rivers. This drainage to the south and north heads at Cranberry Lake, about 45 miles west of the Yellowhead Pass, which is consequently the highest point behind the Rocky Mountain range on which the great trench can be crossed, and it was the taking advantage of this, in conjunction with the low elevation of the Yellowhead Pass that makes the grades of the Canadian Northern Ry. only incomparably better than any other railway across the mountains, except the Grand Trunk Pacific, and it is the indisputable fact that at no other place can a line be built that will at all compare with the C.N.R. in rates of gradient or total rise and fall. The fall from the west end of Moose Lake, to the crossing of the great trench at the Cranberry Lake flat, is 816 ft., in a distance of 25 miles, which makes possible a gradient of seven-tenths of one per cent, with the necessary compensation for curvature, and easements for passing tracks, and this is the ruling grade on one division, from the Yellowhead Pass to Blue River, a distance of 111 miles, and the only division on the 500 miles from the summit of the rockies to the sea where a gradient of more than four-tenths of one per cent is necessary.

To climb out of the great trench to the west, to the highest point between it and the sea, at Albreda summit, a grade of four-tenths only is necessary, for 12 miles, which is the only rise against west bound traffic, and the only gradient of any consequence which prevents a continuous fall from the summit of the rockies to Vancouver. As this summit is 1,615 ft. lower than that of the C.P.R., which is far lower than any other transcontinental railway except the G.T.P.R., and because the C.P.R. has long grades against west bound traffic of over 2 ft. per cent. and many grades of 1% throughout the mountains, it is obvious that the C.N.R. has an advantage over any other railway in existence for west bound haulage, which can hardly be overstated, and that advantage can never be challenged in the future, for the reason, above explained, that there is no other route possible where like conditions obtain. What these conditions make possible in the carrying of grain from the prairies to the Pacific by the C.N.R.—when freight movements from the east of the mountains to the Pacific and the reverse become adjusted, as inevitably they will be, must strike with astonishment anyone who is first acquainted with them; as was expressed by the New York Central Rd.'s President when the facts were first presented to him.

It cannot be too often insisted on, in the interest of the C.N.R., that it has a grade from the sea to a summit of the Rocky Mountains over 1,600 ft. lower than that of the C.P.R. and that it attains that lower summit with a grade that is nowhere worse than four-tenths of one per cent, or 21 ft., with the exception of one grade on a distance of twenty-five miles, and that these grades are compensated for curvature, and adjusted to passing tracks, within these limits, and that the curvature never exceeds 8 degrees, and seldom amounts to as much as that, and is spiralled ac-

cording to the best and most modern practice.

The more technical part of this statement will appeal to railway men, but all of it must impress everyone who learns of it as an extraordinary fact that such a railway through such a country as British Columbia should be possible. Considering that this is an outlet from that immense area east of the Rocky Mountains tributary to the C.N.R., which lies north of the C.P.R. and as far east as Manitoba, and which is beyond doubt the best adapted to the raising of grain and general farming of all the immense north western territory of Canada, and that it is also an inlet from the Pacific to the same under such favorable haulage conditions, can it be questioned that it will develop an immense business, both easterly and westerly, which it will be able to create as soon as conditions become normal for water borne freight on the Pacific. Between the great plains and the Pacific Ocean the mountains are no longer a barrier, since the C.N.R. has come into existence, for they are crossed by this railway with a line which is comparable in the matter of gradients to a like distance in the least mountainous districts on the continent and is capable of hauling as great tonnage as rapidly and cheaply as any.

The National Steel Car Co's Sale and Reorganization.

The President, Sir John M. Gibson, issued the following circular to shareholders, Oct. 27: "Enclosed is notice calling a special general geeting of shareholders for Nov. 12 to consider the question of ratifying and approving a contract which the company has entered into for the sale of its property and business. A copy of the contract is also enclosed.

"The shareholders are doubtless all familiar in general with the situation in which the company has been placed, through a contract which it entered into in 1915, for the manufacture of a large order of cars for the Paris, Lyons and Mediterranean Ry. Co. Unexpected conditions arising out of the war, which were encountered by the company in the performance of this contract, resulted in losses which amounted to more than its total capital stock. Your directors and the officers of the company have been subsequently successfully engaged in reducing the amount of these losses, and have made a material recovery upon this contract, and meanwhile have successfully carried on the company's business and realized a profit therefrom, which has been applied in further reduction of such losses. They have also had in mind the desirability of some arrangement by which the company's debts could be liquidated and as much as possible realized for the shareholders.

"During the past year several negotiations have been entered into looking to the accomplishment of these things, but none of them has been brought to the point of the making of any definite proposal which could be submitted to you. The following is a summary of the company's financial situation as of Sept. 30, 1919: Accounts payable, $3,487,740; accounts receivable and inventory, $1,884,556; deficiency, $1,603,184. To set off against this the company has payments coming in, as a result of negotiations with the P.L.& M. Ry. in France, which, at final adjustment, should amount to $450,000, as well as its real estate, plant and machinery, which have been appraised at approximately $2,600,000. The situation is complicated by the present condition of the car manufacturing business in Canada and the United States. Few orders for cars are being placed, and the completion of the work in hand, and the absence of new orders in the market, has resulted in the necessity of shutting down a considerable part of the company's plant, so that at present time such operation as is being carried on is necessarily resulting in a loss. In view of this, the company's creditors, who have carried it along during the period of financial embarrassment, are insistent that means should be taken at the earliest opportunity to liquidate the company's debts, though during the past two years the company has done a satisfactory and profitable business. As security for its indebtedness, the company made in 1916 a mortgage covering all its property, for the security of an issue of $3,000,000 of its bonds, which have been pledged for the security of its creditors. The principal of these bonds is now overdue.

"Under these circumstances the board has no hesitation in recommending to the favorable consideration of the shareholders the contract of which a copy is enclosed. This contract is to be carried out only in the event that the shareholders determine to ratify it. In substance it makes provision for the discharge of the company's entire indebtedness and for the receipt by the company of 19,000 shares of the capital stock, out of 100,000 shares to be issued, of a new company into whose treasury will be paid in cash $1,250,000. In addition to the shares of stock thus to be received, one half of the net profits realized upon liquidation of the company's claims arising out of the French contract, after deductions as outlined in contract are to be retained by it. Your directors are hopeful that the avails of this contract when finally liquidated, will amount to a substantial sum.

"The company's plant is, in general, in excellent condition. Your board believes that it possesses an efficient operating organization. Its customers have been satisfied with the class and character of its manufactured products, and with the provision of adequate working capital, it is the board's judgment that the new company may look forward to a prosperous and successful career. Unless the proposed contract is ratified the board sees before the company, in view of the insistence of its creditors, no other alternative except liquidation and winding up, and the application of the company's assets to the payment of its debts, in which event it is improbable that any balance would remain applicable to the company's capital stock."

The contract referred to in the circular was made between Donald Symington, of Baltimore, Md., and Robt. J. Magor, of New York, N.Y., as purchasers, and the National Steel Car Co., Ltd., which is referred to in Sir John Gibson's circular, the purchasers agreed to organize a new company under the Dominion Companies Act. The National agreed to ransfer to the new company, all its property, assets, and business, as a going concern, except that it would reserve out of its assets to be ransferred its claims against the French Republic, or the Paris-Lyons-Mediterranean Ry. Co., which it agreed to endeavor to collect. If, upon appraisal of the National inventory, there should exist any deficiency, the National agreed to pay the new company all monies received in connection with its French claims until such deficiency was made good to the new company. After the deficiency, if any, was made good, all receipts on account of the claims to be divided equally between the National and the new company. The National to be reimbursed for its expenses in connection with the collection of claims. On the transfer of the National's property the new company to give the National a release from the Canadian Bank of Commerce of all the National's indebtedness to the bank. The contract provided that it be closed and the transfer of property made on Nov. 14.

The company was organized in 1912 and began operation in November of that year, with a capacity of from 6,000 to 7,000 cars a year. The first year's business showed a profit of $157,153.96, but 1914 was unprofitable, and the surplus was reduced to $80,785.08. In 1915, the company's best year, there was a net surplus of $527,504.56. No report has been issued since then. The Canadian Bank of Commerce is the company's largest creditor, and is said to have advanced about $2,000,000.

Donald Symington, of Baltimore, Md., was, until early in October, Vice President and General Manager, the T. H. Symington Co., railway supply manufacturers, whose works are at Rochester, N.Y. Robt. J. Magor, is President of the Magor Car Corporation, which has its head office in New York, N.Y., and its works at Athenia, N.J. He was a director of the National Steel Car Co., but resigned in October. He is a brother of Basil Magor, who was the National Steel Car Co.'s promoter, who was its first Vice President and General Manager, and who is now Consulting Vice President, Magor Car Corporation.

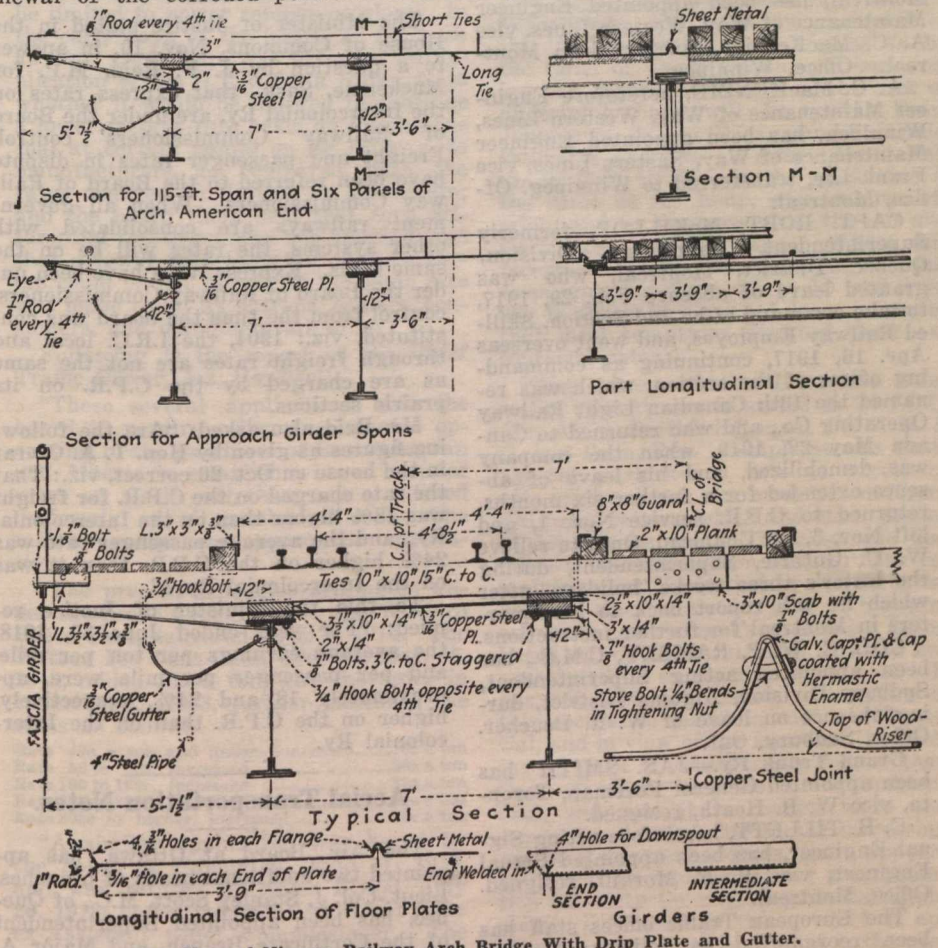
The National Steel Car Co.'s shareholders, at their meeting on Nov. 12, confirmed the contract entered into between the directors and D. Symington and R. J. Magor. We were officially advised, Nov. 18, that no directors other than R. J. Magor had resigned and that no changes had taken place in the officials. It is reported that the President, Sir John Gibson, will resign, and that other changes will be made in the directorate.

National Steel Car Corporation Ltd. has been incorporated under the Dominion Companies Act, to acquire the undertakings, franchises, business, property and other assets of National Steel Car Co. Ltd., and to carry on a similar business. The company's capital is to be divided into 100,000 shares, without nominal or par value, provided that the company should carry on the business with a capital of $500,000. The company may issue and allot the shares of its capital for $5 each, subject to the increase of such capital stock under the provisions of the Companies Act. The company's head office is to be at Toronto.

C.P.R. Steel Rail Orders—The C.P.R. has ordered 140,000 tons of its standard 85 lb. section steel rails from the Algoma Steel Corporation, Sault Ste. Marie, for spread shipment during 1920.

Steel-Plate Drip Floor for Niagara Railway Arch Bridge.

Floor protection of novel character is being applied to the lower Niagara arch bridge, by which the Grand Trunk and five other railways cross the Niagara gorge. Corrosion of the floor system by salt water drippings from refrigerator cars has become serious here, as it has on many other bridges, especially near terminals, where the blowoff, from switching locomotives, of water carrying various boiler compounds seems to add to the trouble. The effect of this action was one of the elements that led to a general overhauling and detail examination of the structure a year ago, as a result of which extensive repairs and reinforcement are being carried out to bring it into condition for the heaviest modern loading. In connection with renewal of the corroded portions of the floor system it was desired to provide protection against further corrosion. To this end C. E. Fowler, consulting engineer for the work, designed a special drip-protective floor which is being installed by the Terry & Tench Co., New York, contractors for the repair and reinforcement work, under direction of Mr. Fowler and H. B. Dickinson, Superintendent of the bridge for the owners.



New Floor of Niagara Railway Arch Bridge With Drip Plate and Gutter.

At the examination of the bridge the main structure was found to be in splendid condition, but the top flanges of floor beams and stringers and the stringer laterals showed losses of 25% to over 50% in thickness from corrosion. Reinforcement of the weakened members was imperative, and as it was desired also to bring all parts of the bridge up to E 60 capacity the two pieces of work were taken in hand at the same time. The bridge was originally designed for about E37, although the principal members of the 550 ft. arch span are of much higher capacity and require no reinforcement.

The bridge is a double deck structure, 1,080 ft. long. The upper deck, at the level of the top chord of the arch, is the double track railway floor. Below this is a highway floor, framed between the trusses. The railway deck has always had a tie floor, with wooden troughs, so that the highway traffic was more or less exposed to rain and drip. Brine drip and locomotive blowoff, especially in case of standing trains, were the most troublesome features of the situation so far as the condition of highway traffic was concerned. The new drainage floor for the railway deck was designed with protection for the highway deck as one of its objects.

In carrying out the floor system repairs and reinforcement, the cover plates and in some cases the flange angles of the stringers were cut off, traffic being restricted to one track while work was going on in the width of the other track. About 65,000 rivets had to be cut out. Where injury to the metal from heating was not to be feared, rivet heads were cut off by oxyacetylene torches fitted with special tips; such a torch cut off 500 to 700 heads of ⅞ in. rivets a day, or four times as many as one hand crew could do. New and heavier flange material was then riveted in place with countersunk rivets, so as to leave a flat surface as a seat for the drainage floor. All old metal was cleaned with sandblast and then painted with tockolith, with a view to counteracting the influence of any remaining rust.

As this strengthening work was completed the drainage floor was set in place. This, as fully shown by the accompanying drawing, consists of plates of copper-steel 3-16 in. thick, resting on maple raising strips bolted to the top flanges every 3 ft. by countersunk bolts. By making the strips on the inner stringer thicker than those on the outer stringer a drainage slope outward was given to the plate; a longitudinal gutter of copper steel under its outer edge takes the drainage to downspouts. The plate floor under each track is 9 ft. wide.

The track ties, 10 x 10 in., are dapped to 9½ in. depth for a length of 14 in., to receive 10 x 14 in. raiser blocks of hardwood, in order to raise the ties clear of the drip plate. The thicknesses of the blocks over the inner and outer stringers differ by 1 in., as shown, so as to make up for the difference in thickness of the raising strips under the drip plate and thus bring the ties level. The blocks are spiked to the ties. All the timber is treated with hot carbolineum. The copper steel floor plates are flanged sections 3¾ ft. wide, their length of 9 ft. extending crosswise of the track. The ends of the sheets are left plain. The side flanges, which form the joint between abutting sections, are 2 in. high, flaring, with fillet of 1-in. radius at the junction of flange and plate. Each flanged edge is punched with four 5-16 in. holes; the two joining flanges are covered for protection by a channel of no. 16 galvanized sheet steel fastened by stove bolts, which also hold the adjoining sections together.

As the track structure rests on these plates without any bedding or through-bolting, attention had to be given to anchoring the track firmly. The ties are held down by hook bolts at the inner edge of the inner stringer only, the holes for these bolts through the drainage plate having no special significance because they are near the upper end of the slope of the plate. These bolts are spaced at every fourth tie, which is equivalent to one bolt per plate section. At the low side of the plate it was not considered advisable to have holes through the plate, on account of the opportunity this would give for the start of corrosion. However, every fourth tie was extended out to provide anchorage as well as to carry a footwalk; it is anchored back to the web of the outer stringer by a steel rod, either through the fascia girder or (on the approach spans) directly by a bolt attaching the rod to the tie. The inner ends of the long ties are fastened together at the middle of the deck by 3 x 10 in. scabs, 3 bolts in each tie.

Ties are spaced 4¾ in. in the clear, to allow room for coating the drainage plate with enamel. Borden tie spacers are used throughout. The rail joints are of the bridge type, and, although the grade of the track is only 0.1%, the track is equipped with anti-creepers, partly because it is desired to maintain tight joints at the expansion points at each end of the structure, where 5 in. of expansion must be taken care of. Expansion joints of Quebec bridge type are provided at these points.

In addition to the inner guard rails, and outer guard timbers faced with steel angles, with which the deck was equipped, an outer guard rail has been added, as extra safeguard in derailment. This was done on account of the great height

of the deck above the Whirlpool Rapids, 200 ft.

While some reliance was placed on the resistance to corrosion of copper steel as compared with ordinary steel, the whole upper surface of the drainage floor is painted with a special priming paint followed by a 3-16 in. coat of hermastic enamel, applied hot. The same coating is applied to the copper steel gutter trough at the outer side of each drainage floor. The leaders from this trough are 4-in. steel pipes carried down clear of the bottom rib of the arch. With a view to facilitating recoating, the trough is attached by hooks so that it can be let down against the side of the stringer for cleaning and recoating. Similarly, the floor plates can be freed by slightly jacking up the track and (after removing the bolts which connect it to the adjoining plate) sliding a plate out like a drawer. When the plate is cleaned and recoated, it can be replaced in the same way. It is expected that the cost of recoating the portions of the floor subject to abrasion will be slight. The whole floor can be washed off with a hose, making it simple to clean it frequently. Reinforcing the floor system of the bridge has been completed at a cost of about $30,000. The drainage floor or "salt water floor" will cost about $25,000.—Engineer News-Record.

Transportation Appointments Throughout Canada.

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

Canadian Government Merchant Marine Ld.—J. W. CORBETT, heretofore chief clerk, Purchasing Department, Canadian National Rys., Winnipeg, has been appointed Purchasing Agent, C.G.M.M. Ltd. Office, Montreal.

J. P. DOHERTY, heretofore in C.P.R. service, has been appointed Port Agent, St. John, N.B.

ALEX. HECTOR, heretofore Travelling Freight Agent, Canadian National Rys., Halifax, N.S., has been appointed Port Agent, C.G.M.M. Ltd., Halifax, N.S.

Canadian National Rys.—W. M. JACKLIN, heretofore Roadmaster, Toronto Terminals, Rosedale, Toronto, has been appointed Roadmaster, Muskoka and Orillia Subdivisions and that part of the Toronto Terminal Subdivision between Todmorden and Duncan, vice T. W. Brown, transferred to other service.

R. M. MITCHELL, heretofore Right of Way and Property Agent, Western Lines, Winnipeg, has been appointed Right of Way and Property Commissioner, with jurisdiction over all matters pertaining to right of way and railway property on the whole system. Office, Toronto.

Canadian Pacific Ocean Services Ltd.—A. W. ESSEX, heretofore ticket clerk at Montreal, is reported to have been appointed ticket agent, Canadian Pacific Ocean Services Ltd., at Quebec, Que., in summer and St. John, N.B., in winter.

Canadian Pacific Ry.—F. H. CLENDENNING, heretofore Assistant Foreign Freight Agent, has been appointed Foreign Freight Agent, with supervision over export and import Oriental and Australian traffic, and all export and import traffic through Atlantic ports from and to British Columbia. Office, Vancouver, B.C.

C. S. GOWANS, heretofore Import Freight and Agent, has been appointed Foreign Freight Agent, with supervision over export and import traffic through Atlantic ports. Office, Board of Trade Building, Montreal.

H. W. GILLIS, heretofore chief clerk to Vice President (Traffic), has been appointed Assistant Foreign Freight Agent, in charge of export and import freight, solicitation and rates through Atlantic ports. Office, Board of Trade Building, Montreal.

J. P. KELLY has been appointed Division Master Mechanic, Saskatoon Division, Saskatchewan District, vice R. A. Jones, transferred. Office, Saskatoon.

FRANK LEE, heretofore Engineer Maintenance of Way, Eastern Lines, Montreal, has been appointed Engineer Maintenance of Way, Western Lines, vice A. C. MacKenzie, transferred to Montreal. Office, Winnipeg.

A. C. MacKENZIE, heretofore Engineer Maintenance of Way, Western Lines, Winnipeg, has been appointed Engineer Maintenance of Way, Eastern Lines, vice Frank Lee, transferred to Winnipeg. Office, Montreal.

CAPT. ROBT. McKILLOP, formerly Superintendent, Laurentian Division, Quebec District, Montreal, who was granted leave of absence Feb. 29, 1917, to take command of he 2nd Section, Skilled Railway Employes, and went overseas Apr. 16, 1917, continuing as commanding officer of the section, which was renamed the 13th Canadian Light Railway Operating Co., and who returned to Canada May 22, 1919, when the company was demobilized, and his leave of absence extended for a further six months, returned to C.P.R. service Nov. 1, and left Nov. 3, for Chapleau, Ont., to relieve W. C. Guthrie, Superintendent, during the latter's three weeks holidays, after which he will report back to headquarters in Montreal for further instructions.

COL. C. W. P. RAMSEY, C.M.G., has been appointed acting Superintendent, Sudbury Division, Algoma District, during absence on leave of W. R. Boucher. Office, Sudbury, Ont.

Grand Trunk Ry.—JAS. SMITH has been appointed General Foreman, Toronto, vice W. B. Heath, resigned.

C. H. TILLETT, heretofore acting Signal Engineer, has been appointed Signal Engineer, vice R. F. Morkill, resigned. Office, Montreal.

The European Traffic offices staff has been reorganized as follows: General Agent and Assistant to European Traffic Manager, P. A. CLEWS; Passenger and Advertising Agent, H. V. CALDWELL; acting Ticket Agent, S. C. SHIPMAN, with offices at London, Eng.; General Agent, E. J. WEARING; Freight Agent, J. M. CHARLES, with offices at Liverpool, Eng.; General Agent, J. M. WALKER with offices at Glasgow, Scotland.

Grand Trunk Pacific Ry. — C. H. BROWN, heretofore Chief Dispatcher, Edmonton, Alta., has been appointed Assistant Superintendent, Biggar to Edmonton, and Calgary Branch, vice C. B. Thompson. Office, Edmonton, Alta.

Reid Newfoundland Co.—G. COBB, heretofore Assistant General Superintendent, has been appointed Superintendent, Western Division. Office, Bishops Falls, Nfld.

W. C. HARVEY, heretofore Marine Superintendent, has been Superintendent of Drydock and Marine Shops. Office, St. John's, Nfld.

E. J. HOSKINS, has been appointed Traffic Manager and Assistant General Superintendent. Office, St. John's, Nfld.

H. J. RUSSELL, heretofore, Superintendent, has been appointed Superintendent, Eastern Division. Office, St. John's, Nfld.

Marine Navigation Co. of Canada—P. J. MELVIN, heretofore Export Freight Agent, C.P.R., has been appointed Contracting Freight Agent, Marine Navigation Co. of Canada, which operates from Montreal during the summer, and West St. John, N.B., during the winter, to St. Nazaire, France.

Freight, Express and Passenger Rates on Intercolonial Railway.

The Minister of Justice stated in the House of Commons, Nov. 10, in answer to a question by J. F. Reid, M.P. for Mackenzie, Sask., that express rates on the Intercolonial Ry. are under the Board of Railway Commissioners' control. Freight and passenger rates in dispute have been referred to the Board of Railway Commissioners. When all government railways are consolidated with other systems, the rates will be on the same basis. Express rates have been under the Board of Railway Commissioners' control from the time the board was constituted, viz.: 1904, the I.R.C. local and through freight rates are not the same as are charged by the C.P.R. on its prairie sections.

Mr. Reid also asked: "Are the following figures as given by Hon. T. A. Crerar in the house on Oct. 20 correct, viz.: That the rate charged on the C.P.R. for freight was 18% higher than on the Intercolonial Ry., and the average passenger rate was 24% higher on the C.P.R. than it was on the Intercolonial Ry.?"

To this the Minister of Justice replied: "For year ended June 30, 1918, the average earnings per ton per mile, and per passenger per mile were, approximately 18 and 24%, respectively, higher on the C.P.R. than on the Intercolonial Ry.

Aerial Transportation Notes.

The Air Board at Ottawa has appointed two additional heads of branches, Lieut.-Col. J. Stanley Scott, M.C., of Quebec, has been appointed Superintendent of the Certificate Branch, and Major A. M. Shook, D.S.O., D.F.C., A.F.C., and Croix de Guerre with gold star, has been appointed Secretary. Lieut.-Col. Scott enlisted early in the war in the Canadian artillery. He later transferred to the Royal Flying Corps, and, after considerable service in France, returned to Canada, where he was in command at different times of several of the Royal Air Force camps, including the camp at Borden in 1918. Major Shook was, before he joined the Royal Naval Air Service in 1915, the principal of a school in Alberta, and his service in the Royal Air Force was most distinguished, as appears from his numerous decorations. Captain Frank Roy Smith of Barrie, Ont., has been appointed Medical Officer under the Air Board. He was attached to the Royal Air Force as a medical officer for over wo years, having, among other units, commanded a Royal Air Force special hospital for six months.

Traffic Orders by Board of Railway Commissioners.

Slack Coal Rates in Saskatchewan and Alberta.

The Board of Railway Commissioner's Secretary, issued the following letter to the parties concerned on Oct. 11:

"Referring to applications made to the board by various western municipalities that railway companies operating in Saskatchewan and Alberta be required to establish a lower basis of rates on slack coal than now published uniformly on all grades of coal, I enclose a copy of the report of the board's Chief Traffic Officer, dated Oct. 2, and am directed to say that on the facts as submitted the board does not feel justified in giving the direction as requested. The board, if the facts warranted it in directing a reduction in rate, could not direct that the rate should be limited to power companies alone. In the early days of the board, as far back as Oct., 1904, there was before it an application of the G.T.R. for a ruling as to whether it would be allowed to continue a lower freight rate basis on bituminous coal at certain points on its railway, to manufacturers, as compared with the rates charged to dealers or consumers; and the board there held that such differential treatment was not justified, and that a lower rate basis for manufacturers could be put in only if the same rate was made to all its patrons, dealers, consumers, and manufacturers alike."

Following is the report of the Chief Traffic Officer, Jas. Hardwell:

"These several applications ask the board to require railway companies operating in the provinces of Saskatchewan and Alberta to establish a lower basis of rates on slack coal than now published uniformly on all grades of coal. The railway companies oppose the applications.

"The present schedules originated under the board's judgment in the Western Rates Case, delivered April 6, 1914. The Fifteen Per Cent Case, effective Mar. 15, 1918, added 15c a ton, and the order in council, P.C. 1863, further increased the rates as follows:

Rate 49c a ton and under, increased	15c a ton
Rate 50 to 99c, increased	20c a ton
Rate 100 to 199c, increased	30c a ton
Rate 200 to 299c, increased	40c a ton
Rate 300c or higher, increased	50c a ton

"A similar application was heard by the board at Edmonton, June 11, 1918, and was refused by order 27,460, July 20, 1918, under judgment written by the ex-Assistant Chief Commissioner. The present applications appear to me to be in effect applications for some measure of relief from the provisions of the order in council, and to relate to questions of policy rather than rate fixing per se, this being referred to in Mr. Scott's judgment.

"The railways rely on the rate uniformity laid down in the Western Rates Case and on the board's more recent judgment, and also contend that a preferential rate would result in heavy freight undercharges; in other words, opportunity would be afforded for disguising run-of-mine coal in the cars with a top covering of slack. This may or may not be mere conjecture; but it occurs to me, although I may be wrong, that depreciation might result owing to intermixture of the slack with the good coal during transit, and if so, that this would operate as a set-off against the advantage gained by the difference in rates.

"Slack coal has no preferred rates in Canada. In April, 1918, when the previous case was under consideration, I wired the Chief of Tariff Division of the Interstate Commerce Commission as follows: 'Can you tell me in general way whether American carriers charge lower rates on bituminous coal screenings or slack than on lump or run-of-mine coal.' The following reply was received: 'Rates bituminous coal from eastern and central western collieries apply generally on all kinds, no distinction being made between slack, lump or run-of-mine, except in few isolated cases involving short hauls.'

"The list of preferred slack rates furnished by the Director of Public Service and Accounting, United States Railroad Administration, attached to the Saskatoon application and read into the evidence there, are probably examples of the 'few isolated cases' referred to by the Chief of Tariff Division. Disregarding the anthracite examples, the lack of underlying basis will be noted. From Johnstown, Pa., to Chicago and St. Louis, the rates apply to all sizes. From Palasade, Col., to Denver, the slack rate is the same as for lump, egg and run-of-mine; and to Montrose, Col., the nut and slack rates are the same. Where differences exist they are anything but uniform, running from 25 to 50 and even 90c in favor of slack. I have no doubt that local conditions dictated these exceptional rates.

"The opinion of the Interstate Commerce Commission is stated in 34 I.C.C. 414, Alpha Portland Cement Co. v. B. & O. and Penn. Rds. Complaint was made against a slack-coal rate as unreasonable, and request was made for differential rates between slack and other grades of bituminous coal. The case was dismissed, the commission saying: 'The remaining question is that of a differential between slack and other sizes of bituminous coal, complainant's contention being based on difference in value and the impracticability of storing slack coal. It has not been the custom of carriers in this section to maintain such a differential, and in view of the fact that the loading of slack is substantially lighter than that of other varieties of bituminous coal, and that it is coming more and more into demand due to the increasing use of mechanical stokers, there appears to be neither commercial nor transportation necessity for requiring its establishment. Difference in value, which it appears has decreased somewhat in the past few years, would not, in our opinion, justify it.'"

British Columbia Electric Railway Tolls.

28,946, Oct. 28. Re application of British Columbia Electric Ry. Co. Ltd., for approval of its standard tariffs of maximum tolls to be charged between points on its lines of railway other than the Vancouver & Lulu Island and the Vancouver Fraser Valley & Southern Rys., for which excepted lines standard tariffs have already been approved by the board; upon its appearing that the rates shown in the said standard maximum tariffs are these now being charged by the company, it is ordered that standard maximum freight mileage tariff C.R.C. 146, standard passenger tariff or maximum mileage tolls on interurban lines, C.R.C. 9, standard tariff of maximum tolls on street car lines (not including interurban lines), C.R.C. 8, and express tariff C.R.C. no. Ex. 1, and Supplement 1, thereto, of the applicant company and the Vancouver Power Co., be approved until further order.

Sand and Gravel Rates From Stamford.

28,954, Oct. 29. Re complaint of Robt. Patterson, of Stamford, Ont., against charge of 50c a ton on sand and gravel from his pit in Stamford to Niagara Falls, Ont., imposed by G.T.R.; upon hearing the complaint at Toronto, June 5, 1919, the complainant, the G.T.R. and the Michigan Central Rd. being represented, it is ordered that the complaint be dismissed.

Dominion Atlantic Railway Sleeping Car Fares.

28,967, Nov. 3. Approving under sec. 354 of the Railway Act the Dominion Atlantic Ry.'s standard passenger tariff of sleeping car tolls, C.R.C., 3-4.

Car Demurrage as Affected by Strikes.

29,009. Nov. 14. Re consideration by the board of Canadian Car Demurrage Rules as affected by strikes; upon hearing the matter at Toronto, Oct. 31, the Canadian Car Demurrage Bureau, Grand Trunk, Canadian National, and Canadian Pacific Railways, Michigan Central Rd., and Toronto and Montreal Boards of Trade being represented and what was alleged, it is ordered that the matter be dismissed.

Canadian Northern Railway Finances.

The Minister of Railways, replying to questions in the House of Commons recently said that the gross earnings of the Canadian Northern Ry. System from Oct. 1, 1917, to Aug. 31, 1919, were $93,502,669.27; the proceeds of notes sold to the public were $52,871,608; the advances from the Dominion Government for repayment of loans and notes, construction, betterment and new equipment, also interest on securities, were $71,606,463.58. The total disbursements during the same period were: Operating expenses, $93,188,470.58; expenditure on construction and betterments, also purchase of equipment, $56,346,558.85; repayment of coupon notes, and loans, also interest charge, $71,356,256.50. The net earnings from operation to Dec. 31, 1918, were $4,846,103.24, but after paying bond interest and all other charges, the deficit was, Oct. 1, 1917, to Dec. 31, 1917, $2,368,122.40; Jan. 1, 1918, to Dec. 31, 1918, $14,643,753.30; total, $17,011,875.70. The estimated operating deficit for tihs year is $5,587,028.

Where Ignorance Is Bliss.

"What makes you think our friend knows very little about running a railway?"

"The fact," replied Mr. Dustin Stax, "that he is so willing to try it."—Washington Star.

The British Columbia Lands granted to the British Columbia Southern Ry., which passed into the hands of the late F. August Heinze, totalling 701,543 acres, and which were put up for sale for taxes in 1918, have now reverted to the B.C. Government, according to an announcement reported to have been made Nov. 10 by the B.C. Minister of Finance.

President Beatty of the C.P.R., Addresses the Toronto Empire Club.

E. W. Beatty, K.C., President, C.P.R., who was the Toronto Empire Club's principal guest, at a luncheon, on May 20, which was attended by nearly 800 persons, spoke as follows:

"I find it very difficult to express my deep appreciation of the kindness and courtesy of the invitation of your President that I should attend and speak at this luncheon. It is peculiarly gratifying in that this is the first occasion that I have been in Toronto, except on the company's business since I assumed the duties of my present office, and that the invitation comes from the executive of a club of such outstanding importance, formed in the city in which I formerly lived, and during 14 years enjoyed what most of us regard as the most pleasant time of our lives. It is over 18 years since I left Toronto to live in Montreal, and during those years, particularly during the lifetime of my late father and mother, I do not think that any one month passed without a visit to your city for a day or two days. Many of my friends are here, the old associations have not entirely disappeared, and my affection for my former home city remains unimpaired. These circumstances alone would afford ample justification for a feeling of pride in the invitation of your executive, but there is another reason why I have embraced, with such pleasure, the opportunity which has been afforded me, and that is the large and common interest which the company I have the honor to represent has with the City of Toronto and with the Province of Ontario.

"The C.P.R. operates within your province, 3,400 miles of railway, being, I think, at present the largest mileage under any single system within the province. The possession of this extensive mileage gives in itself a reason why the company's interests and those of the development of the province are closely co-related and inter-dependent. That interest is shared by the other systems which are to be consolidated in one unified operating organization, the mileage of the Grand Trunk in Ontario being 3,036, and of the Canadian National Rys., 1,852. Ontario offers perhaps the greatest variety of railway traffic possibilities of any of the Canadian provinces. You will appreciate that this is so when you recall the extent of the productions of the province which contribute to the support of the railway system operating within it. In manufactures' products, it, of course, leads the whole of Canada; in agricultural products it is prolific, and the products of the forests and mines are extraordinarily extensive. In manufactures' products alone, the province produced over thirteen hundred million tons in 1917, or over 51% of the aggregate production of Canada. Of the products of the mine, Ontario produced ores to the value of $80,000,000, or 46% of the total production of Canada, while the value of the agricultural production was $1,144,000, or about 22% of the whole production of Canada. In pulpwood Ontario produced 33% of the total production of Canada, and in paper 43%, while in dairy products it produced in value and in tonnage in excess of 62% of the whole Canadian production. In livestock production the figures are equally impressive, being 26% of horses, 34% of milch cows and 25% of sheep.

"That is the past, and the future holds still more in the way of traffic and railway possibilities. The total railway mileage in Ontario is slightly in excess of 11,000, or a little less than that of the State of Pennsylvania, while its area is five times as great. Ontario is likewise over five times as large as Ohio, and its railway mileage only 1,900 miles greater. With the increasing population and commercial expansion, more mileage must be constructed and existing facilities increased. The C.P.R. has not reached the limit of its development within Ontario, nor has any other railway company, if the future possibilities are as we have every ground for believing them to be.

"The Canadian National Rys. system will, in due course, develop into one of the largest single organizations in the world. It will possess, when the consolidations now in contemplation are completed, a system aggregating over 19,000 miles in Canada and 2,000 odd miles in the United States, while lines embraced in the C.P.R. system in Canada and the United States amount to more than 19,400 miles. Whatever divergence there may be in the views as to the advisability of the policies which have led to the acquisition of this extensive mileage and its operation under the aegis of government, there can be but one view as to the desirability of its success. I can, I think, say with perfect candor and honesty that no one desires its success more than I, and this is a hope which I think can fairly be re-echoed by anyone who desires the burdens of this country to be as light as possible, and the freight and passenger rates as low as possible.

"In addition to the federally incorporated companies, you have in Ontario local projects which are designed to accelerate development, and, while they are not yet in being, you may be fairly well assured that if carried out to a successful conclusion, none of the existing transcontinental railway systems can help but be benefitted by them. It is true that in local competition existing business may be more or less divided, but there will be new business attracted and developed because of them, and the advantage to the transcontinental systems secured from the haulage of additional tonnage over long distances will much more than offset any diminution of local earnings through the introduction of a new competitor. I make no comment on the advisability or inadvisability of proceeding with those projects now. I may conceivably have views on the economic expediency of them with do not conform with the views of others, but my great desire would be that, if carried out, they should be successful, because nothing, all suggestions to the contrary notwithstanding, is more discouraging than financially embarrassed competitors. The fact that competition is carried on with prosperity to all those engaged in it is the surest sign that general business conditions are healthy, whereas the failure of any large enterprise, especially one operated by the government, must of necessity mean heavier taxation on corporations and individuals to meet annual deficits. The burdens of the country are heavy as it is, and no one, no matter in what system of operation of public utilities he believes, can possibly welcome the advent of unsuccessful enterprises.

"I mention this because it has seemed to me that the impression is sometimes current in parts of the province that the C.P.R.'s activities are more widespread than is the case, and that opposition has been shown when not the faintest semblance of any has been indicated through any act of the company itself. I can imagine no issue of a transportation character being raised in Canada in which the C.P.R.'s attitude and position cannot be candidly and frankly stated. The company's first and principal interest must always be its ability to perform efficient transportation service, and its own resultant transportation prosperity. While Canada's political future is a matter which concerns all companies and individuals, the C.P.R.'s activities are so unimportant a factor that I am almost ashamed to mention them when so much which is flatteringly untrue has been said about them. In fact when you appreciate that in the C.P.R. alone, quite apart from its subsidiary enterprises, a sum in excess of $827,000,000 in cash has already been invested, of which more than $758,000,000 has been contributed directly or indirectly by the share and security holders, you will realize the magnitude of the company in the prosperity of Canada and every province in Canada. I can imagine no corporation of its size, with its numerous ramifications more aloof from political activities than the C.P.R. Its business and its interests, it is the duty of its directors and officers, to jealously guard and actively further, and in every commercial and economic issue the company is to some extent affected. Political machinations and intrigue, I am glad to say, it is free from, because its directors and officers appreciate that the measure of support which is given to it will be that which it gains through the character of the service it renders and the honesty and the integrity of the officers to whom its interests are confided.

"There is, as you know, a railway situation existing in Canada, and to a greater degree in the United States, which is without parallel in the history of either country. It would take too long for me to trace for you some of the history which has led up to the present condition, but it is sufficient for me to say that in the evolution of the U.S. railways, the railways themselves were not free from blame and in fact were initially responsible for the public attitude towards them, which led to their failing to receive support when public and judicial support was sadly needed. This attitude had resulted in the U.S. in a system of restrictive and too inelastic regulation, absolutely cramping in its effect upon the development of the companies and subversive of the public interests. The failure of the U.S. railways in 1917, and what we now know to have been their physical and financial breakdown, was a breakdown under the too rigid system of regulation to which during prior years they had been subject. In the conduct of these railway operations we are, as others, confronted with an extraordinary high cost ratio, due to high wages and costs of material of every description.

"To what extent the question of increased remuneration to railway employes in Canada is important is indicated most vividly by the enormous total of the wage increases granted during 1918 and 1919. The amount of those increases, which aggregated the enormous sum of $77,000,000 exceeds the interest on the whole war debt of Canada,

exclusive, of course, of the loan just completed. In other words, even though the war expenses, due to the emergency of the situation, were extraordinarily heavy and extended over a long period, the interest on this debt to be paid by the Canadian people does not equal the increases granted in a single year to the employes in one branch of commercial activity, and additional requests are being made. It is axiomatic that these increases in operating expenses must be paid, and they can only be met in one way, viz.: by increasing the rates to the shipping public, unless the natural increase in traffic is such as to equal the increased operating costs. Unfortunately for the railways of Canada the rate increases granted last year fell short of equalling the increases in wages granted under what is known as the McAdoo award, and amendments. The increases in revenue due to increases in rates amounted approximately to $43,000,000, which means that $34,000,000 was spent in increased operating costs, due to increases in wages alone, which the railways have not been able to get back. If additional wage increases are granted in the U.S., then by reason of the parity of conditions which exists there as compared with Canada, similar increases will follow here, and, if to meet those increases, rates are again increased in the U.S., rates must again be increased in Canada. It must be obvious to you that this vicious circle, with the pyramiding of expenses and increasing costs to the ultimate consumer (the latter in many cases out of proportion to those directly resulting from the increases in wages and rates), must stop. Otherwise the burden will become too great for any community to bear, and prosper. The basis for all applications for wage increases has been the increased cost of living, and, while these increases have been great, the actual increases in the wages is, generally speaking, greater than the increases in the essential and staple commodities. The reason why the wage increases, even to the extent granted, do not place the recipients in a more favorable position is that the increased cost of necessities has been accompanied by a higher standard of living, and these extra and new expenses, which are the voluntary act of the individual and his family, have increased his general living expenses to such an extent that the increased wages have not offered sufficient compensation.

"This is not to be wondered at, because perhaps one of the last things any individual learns is how to spend money properly, once he reaches the point where there is a margin which can be spent as and when and in what way he wills. It is easy enough to be economical and sane in expenditures when one has no considerable monies to disburse beyond what he requires for necessary expenses of living. But while this may be all true and can only be corrected by education, there is an inflated cost to all staple commodities in Canada and the U.S. today which is not warranted. The history of the last few weeks in Great Britain and the U.S. is indicative of what can be done when it becomes apparent that the sentiment of the people as a whole demands action and expects remedies. I am of the conviction that once the results to the community of these increasingly high costs are brought home to those who produce and distribute, backed by the weight of accurate publicity, much will be accomplished in reducing or at least checking the increasing cost of living, which is rapidly getting beyond the point of endurance, to the man of fixed income or moderate means. It has been suggested by able financiers and others that tinkering with these questions is futile and that the solution depends upon and should be left to the operation of inexorable laws of supply and demand. No doubt under normal conditions we could afford to rely upon the corrective influence of these almost immutable economic laws, but the world is sadly out of balance, and the demand now for necessities, particularly foodstuffs, is beyond the supply, and the prices have been forced higher than the purchaser can afford to pay. As this is a purely artificial condition, due to five years of war, it requires artificial means to correct it. In other words, with the demand so much greater than the supply unreasonable costs cannot be exacted if the world is to pay for what it buys.

"The necessity for the moment, of course, is more production, which means more work and greater thrift. It means that the individual must produce in order that the supply will be increased, and he must save in order to bear safely his individual burdens. Never, too, perhaps was the need of individual efficiency more apparent than it is today. Efficiency in itself is one means of increasing production and lowering costs. Inefficiency is responsible for much waste, and how great it is and how lamentable its results can be indicated in the case of any large corporation. I am familiar with the figures of my own company, and therefore, I may be pardoned for using them as an example. The C.P.R. pay roll aggregates $7,500,000 a month, or roughly, $90,000,000 a year, and inefficiency of as little as 10% means a loss in labor production of $9,000,000 a year. One hundred per cent efficiency is a high mark to aim at, and 10% under par would be considered a high average, but yet in the case of one company alone, what I think would be considered much better than an average showing would mean in the result a wastage of effort valued at $9,000,000. When you consider these facts, it is not to be wondered at that the paramount consideration in all organizations today is the obtaining of this efficiency, the lack of which is so costly. It cannot be obtained through theories, or fancy experiments in different methods of organization. To my mind it is only capable of accomplishment in one way, viz.: through the everlasting struggle for results, because with them comes reward. With this knowledge and a high sense of duty, coupled with the maximum of effort and eternal vigilance, efficiency is secured.

"In concluding these remarks, which are intended to be only suggestive, I cannot refrain from mentioning the duty which your transportation companies, whether government owned and operated, or privately owned and operated, owe to the people of this country. I say 'owe,' because I know of no individual agency which can contribute to or mar prosperity to a greater extent than these huge transcontinental or semitranscontinental systems. The time was when your railway superintendent was a man of rough exterior, crude methods and indifferent, not only to the whims but the rights of the public. Public sentiment and the necessities of the situation have changed all that, and now one essential ingredient in traffic operation, or executive railway activities, is the appreciation of the exacting nature of the service which the public demands, and the everlasting ambition to inspire confidence in the service given, for the business rewards that follow from its successful accomplishment. Intelligent and serious discussion of all phases of transportation activity in connection with Canada's development are essential. Support of the railways is necessary if they are to be able to do their full part in Canada's trade expansion, because no other single agency to the same extent contributes to and reflects the general commercial prosperity of the country. In the course of these remarks I have mentioned at times matters which are peculiarly within my knowledge concerning the C.P.R. I did so intentionally, knowing that you would not disassociate me from the company I represent. If you think the references have been somewhat more frequent than is necessary, I would ask you to remember that there were many things I might have said which I did not say."

Canadian National Railways Earnings.

	1919	1918
January	$ 6,744,018	$ 4,696,567
February	6,000,342	4,421,504
March	6,827,491	5,710,660
April	6,909,632	7,165,890
May	7,518,244	6,580,745
June	6,009,585	6,868,864
July	7,657,402	5,733,299
August	8,274,882	8,255,942
September	8,627,268	7,058,381
October	9,389,795	8,480,468
	$74,057,654	$64,972,280

Approximate earnings for 3 weeks ended Nov. 21, $6,017,758, against $5,320,501 for same period, 1918.

Canadian Pacific Railway Earnings, Expenses, Etc.

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

	Gross	Expenses	Net	Increases or decreases
Jan.	$13,028,328	$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
July	14,720,362	11,723,659	2,996,703	826,692
Aug.	15,283,654	11,505,486	3,778,168	569,534
Sept.	17,513,691	13,421,771	4,091,920	970,479
	$124,239,974	101,186,705	$23,053,269	*$153,799
Incr.	$ 13,158,999	$13,312,798		
Decr.			$ 153,799	

Approximate earnings for October, $18,113,000, and for 3 weeks ended Nov. 21, $12,015,000, against $15,514,000, and $10,266,000 for same periods, respectively, in 1918.

Grand Trunk Railway Earnings, Expenses, Etc.

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

	Gross	Expenses	Net	Increases or decreases
Jan.	$ 4,402,229	$ 5,118,234	$† 716,005	$* 81,794
Feb.	4,088,028	4,397,953	309,952	660,229
Mar.	5,513,593	4,673,298	840,295	762,766
Apr.	5,357,537	4,601,550	755,987	92,889
May	5,272,060	4,603,411	668,649	*36,495
June	4,947,795	4,644,659	303,136	*707,067
July	6,021,746	4,886,147	1,135,599	*35,347
Aug.	6,719,921	5,043,662	1,676,259	*101,890
	$42,322,909	$37,968,914	$4,353,996	$553,291

†Deficit. *Decrease.

Approximate earnings for September, $7,004,107; October, $7,136,373, and for 2 weeks ended Nov. 14, $2,910,422; against $6,342,273; $6,348,090, and $2,814,595, for same respective periods in 1918.

Citadel Brick and Paving Block Co. has ordered 125 dryer cars from Canadian Car and Foundry Co.

Legislation Authorizing the Dominion Government to Acquire the Grand Trunk Railway System.

When Canadian Railway and Marine World for November went to press, the bill introduced in the House of Commons, by the Minister of Railways, providing for the acquisition of the G.T.R. system by the Dominion Government, and which was published in full on pgs. 593 and 594 of that issue, was still in the committee stage.

On Oct. 30, when the house was considering, in committee, sec. 5 of the bill, providing that the present guaranteed stock and the new guaranteed stock, or any part thereof, might be called in or redeemed by the government, at par, at any time after 30 years from the date of the appointment of the committee of management provided for in sec. 5, subsec. (a), on 6 months notice by advertisement to the holders thereof, the Minister of the Interior announced that the government had decided to reduce the period from 30 years to 5 years, and moved an amendment accordingly. Hon. W. L. M. King's previous amendment to a similar effect was then withdrawn, and Mr. Meighen's amendment was agreed to.

On the consideration of sec. 8, providing that the government might lend to the committee of management, upon G.T.R. notes or other obligations, such sums as the government might from time to time deem necessary, for carrying on the operation or improvement of the G.T.R. sysem, the Minister of the Interior said that, after listening to the Hon. W. S. Fielding's comments, and going more fully into the matter, the clause seemed so wide and sweeping a character that he did not think it necessary, and he moved its withdrawal, which was carried.

On the consideration of the bill's preamble, after considerable discussion, the Minister of the Interior moved to amend it by adding after the words "And whereas it is expedient that His Majesty should acquire the whole of the capital stock of the G.T.R. Co. of Canada, except the 4% guaranteed stock above referred to" the following words: "And should have power to acquire the said 4% guaranteed stock." This was adopted and the committee then reported the bill as amended.

On Oct. 31 the Minister of Railways moved the third reading of the bill, and Hon. W. S. Fielding moved in amendment:

"That the bill be not now read a third time, but that the house do come to the following resolution: That the G.T.R. system, which the government proposes to acquire, comprises over 8,000 miles of railway line, owned, controlled, or leased and operated by the G.T.R. Co. and its subsidiaries; that the parent G.T.R. Co. has numerous subsidiary companies, and the system includes, besides the railway mileage herein mentioned, the ownership and management of hotels, steamship lines and other property; that these railways and other property are partly in Canada, partly in the United States and partly in Great Britain; that the obligations of these companies in various forms run into vast sums, and the financial affairs of the several companies are interwoven by guarantees of securities; that the parent G.T.R. Co. and its chief subsidiary the G.T. Pacific Ry. Co., are admittedly unable to fulfil their obligations to the Dominion; that the information in possession of the house is insufficient to enable the house and the people to fully understand the complicated affairs of the G.T.R. system; that there has been no inquiry into the affairs of the G.T. system since that which was conducted by the Drayton-Acworth commission in the spring of 1917, which related to the Canadian railway situation generally, and incidentally discussed the affairs of the G.T. system; that this said Drayton-Acworth commission in its report say concerning the Grand Trunk Railway Company:

" 'Even if the government were to relieve them entirely, as suggested by their President, of their unfortunate G.T. Pacific venture—and, as we have already said, we cannot think that the request can be reasonably justified— it is evident that the G.T.R. Co. is not and will not be for some time to come in a position enabling it to pay out any money at all in dividends. We regard the entire share capital as being intrinsically of but small value at the present time. On the basis of present value of maintainable income the fair compensation would be very small.'

"That of the stock thus described by the Drayton-Acworth report as of small value the bill proposes to place a perpetual government guarantee of interest at 4% on about $60,000,000, and to submit the valuation of about $180,000,000 to arbitration; that the house is of opinion that before taking further action towards the acquisition of the railways referred to the government should appoint a commission composed of persons of recognized ability and experience in railway management, railway finance, and railway accounting, to make a full inquiry into all the affairs of the G.T.R. Co. and its subsidiary companies, their assets and liabilities, the condition of the railway lines and their equipment, the physical value of the properties, the sums required to put them into efficient condition, their estimated earning powers, and generally into all matters in any way relating to the affairs of the companies herein referred to, and to make a full report thereon for the information of parliament." On Nov. 4, Mr. Fielding's amendment was defeated by 91 to 50.

Hon. W. L. M. King then moved an amendment: "That this bill be not read a third time, but that it be recommitted to the committee of the whole house, with instructions to amend it by adding to sec. 2, the following words: 'The agreement herein shall be submitted to and be subject to ratification by parliament.' " This amendment was defeated by 90 to 55.

J. A. Campbell, M.P. for Nelson, Man., then moved in amendment: "That all the words after the word 'That,' in the main motion, be struck out and replaced by the following: 'The said bill be not now read a third time but be recommitted to committee of the whole house with instructions to amend the same by adding another clause as follows:—'12. Notwithstanding anything contained in this act the value of the 4% guaranteed stock of the Grand Trunk, amounting to £12,500,000, shall be submitted to arbitration.' " On Nov. 5, this amendment was defeated by 83 to 57.

J. J. Denis, M.P. for Joliette, Que., then moved in amendment: "That all the words after the word 'That' in the main motion be struck out and the following substituted therefor: 'Bill no. 33 be not read a third time, but be referred back to committee of the whole house with instructions that they have power to amend same by adding at the end of sec. 6 the following words: 'No award of the arbitrators shall be final and valid until it has been approved of and ratified by the Parliament of Canada. This amendment was defeated by 85 to 53.

On the question being again proposed on the main motion, G. Parent, M.P. for Quebec West, moved in amendment: "That the said bill be not now read a third time, but that the house do come to the following resolution: 'That the G.T.R. system, which the government proposes to acquire, comprises many miles of railway lines on American soil; that the G.T.R. Co. has diverted most of its traffic from Canadian ports to its United States terminals; that a continuance of such policy by the Canadian Government would be injurious to Canadian trade and detrimental to our national welfare; that the ownership by the Canadian Government of the American section of the G.T.R. would involve this country into international troubles respecting labor administrations and public policy; that for the above mentioned reasons, the acquisition of these lines means a serious danger of the annexation of Canada by the United States; that the house is of opinion that before taking action towards the acquisition of the railway referred to, the government should give an immediate assurance to this house that it does not intend to divert Canadian trade from Canadian trade from Canadian ports' by taking over that portion of the G.T.R. situated and operated in the United States.' " This amendment was defeated by 87 to 43.

The question being again proposed on the main motion, J. A. Robb, M.P. for Chateauguay-Huntingdon, Que., moved in amendment: "That the bill be not now read a third time, but that it be read a third time this day six months." This amendment was defeated by 84 to 53.

The main motion for the third reading of the bill was then carried on the same division reversed, viz.: 84 to 53, and it was read a third time and passed.

In the Senate the bill was read a first time, Nov. 5, and on the motion for second reading, Senator Ross, Middleton, N.S., moved that its further consideration be deferred until the next session of parliament. This amendment was defeated Nov. 6, by 39 to 45, and the bill was read a second time. On Nov. 7 the Senate went into committee on the bill. Several amendments proposed were defeated, but the following were adopted:

Clause 6, line 19, after the word "Canada," add the following: "The value, if any, so determined shall not be greater than an amount on which the annual dividend at 4% per annum on the aggregate face value of the present guaranteed stock and the new guaranteed stock taken together would exceed $5,000,000. The fixing of this limit shall not be taken by the arbitrators as any admission or indication that the value to be determined is the amount so fixed, or any other amount." This refers to the 1st and 3rd preference stocks, and the common or ordinary stock.

The following clause was added as no. 12: "For the purpose of the valuation provided in this act, the obligations of the Grand Trunk as guarantors of any indebtedness of the Grand Trunk Pacific

Railway Co. or of the Grand Trunk Pacific Branch Lines Co., or otherwise, and the claims of the Government of the Dominion of Canada against eiher of the above mentioned companies or against any company forming part of the Grand Trunk Railway System shall not be treated as extinguished or affectedly by anything contained in this act."

The bill, as amended, was then read in the Senate a third time. The House of Commons, on Nov. 8, accepted the Senate's amendments by 57 to 28.

The further supplementary estimates for the year ending Mar. 31, 1920, passed at the Dominion Parliament's recent session include $50,000 to pay expenses in connection with acquisition of the Grand Trunk and associated railway systems.

The committee of management of five persons, two to be appointed by the G.T.R., two by the Dominion Government, and the fifth by the four so appointed, to ensure the operation of the G.T.R. system in harmony with the Canadian National Rys., so as to treat the two systems in the public interest as nearly as possible as one system, until the G.T.R. preference and common stocks are transferred to, or vested in, the Dominion Government, is not likely, according to an Ottawa press dispatch, to be appointed for some time. It is said that the appointment will not be made until the consummation of the agreement between the government and the G.T.R. shareholders.

Railway Rolling Stock Orders and Deliveries.

Canadian National Rys. have received 10 six wheel switching locomotives from Canadian Locomotive Co.

Canadian National Rys. have received 8 tourist cars and 500 stock cars from Canadian Car and Foundry Co.

Grand Trunk Pacific Ry. has received 799 repaired box cars from Canadian Car and Foundry Co., Fort William, Ont.

The C.P.R., between Oct. 14 and Nov. 11, ordered 200 automobile cars from its Angus shops, and 2 vans, 29 ft. long, from its Winnipeg shops.

The G.T.R. has received 277 repaired box cars, and 136 repaired hopper cars from Canadian Car and Foundry Co., making a total of 820 out of an order for the repair of 2,500.

The C.P.R., between Oct. 14 and Nov. 11, received the following rolling stock from its Angus shops: 2 steel baggage and express cars, 70 ft. long; 8 steel tourist cars, 1 freight refrigerator car, 189 steel flat cars, 41 ft. long; 1 Pacific type locomotive, and 1 Santa Fe type locomotive.

The Jamaica Government Railways have ordered 3 type 4-8-0 locomotives from Canadian Locomotive Co. Following are the chief details:—

Weight on drivers	109,769 lbs.
Weight, total	138,880 lbs.
Wheel base, rigid	12 ft. 9 ins.
Wheel gase, total	23 ft.
Wheel base, engine and tender	50 ft. 2 ins.
Heating surface, firebox	131 sq. ft.
Heating surface, tubes and arch tubes	1,819 sq. ft.
Heating surface, total	1,950 sq. ft.
Driving wheels diar.	46 ins.
Driving wheel centers	Cast steel
Driving journals	8½ x 10 ins.
Cylinders, diar. and stroke	19 x 26 ins.
Boiler	Straight top, radial stayed
Boiler pressure	190 lbs.
Tubes, no. and diar.	246-2 in.
Injectors	Sellers M 9½
Safety valves	2 consolidated 3 in. encased
Brakes	Westinghouse E. T. 6
Packing	Metallic
Fire brick	Security arch
Valve motion	Walschaert
Cab	Steel lined with wood
Pilot	All steel
Headlight	Schroeder electric
Sanders	Leach triple
Weight of tender, loaded	94,000 lbs.
Tank capacity	3,500 imp. gals.
Coal capacity	1,400 lbs.
Truck, type	4 wheel
Truck wheels, diar.	33 ins.
Wheels	Steel tires, cast iron centers
Journals	M.C.B. 4½ x 8 ins.
Brake beams	M.C.B. steel

Canadian National Rys. orders for rolling stock during this year are summarized as follows:

50 colonist cars, ordered Dec. 18, 1918; delivery completed May 29; builders, Pullman Co., Chicago.

25 cabooses, ordered January; delivery completed May 22; builders, Preston Car and Coach Co., Preston, Ont.

550 general service cars, 50 tons capacity; ordered Jan. 24; delivery completed May 30; Eastern Car Co., New Glasgow, N.S.

500 flat cars, 40 tons capacity; ordered Jan. 25; delivery completed July 15; builders, Eastern Car Co., New Glasgow, N.S.

80 colonist cars; ordered Jan. 25; delivery completed July 2; 250 Hart-Otis ballist cars; ordered Jan. 25; delivery completed July 11; 150 refrigerator cars, 40 tons capacity; ordered Jan. 25; delivery completed Aug. 13; 500 stock cars, 30 tons capacity; ordered Jan. 25; delivery completed Oct. 29; 20 tourist cars; ordered Jan. 25; 15 delivered Nov. 15; builders, Canadian Car and Foundry Co., Montreal.

750 steel frame box cars, 40 tons capacity; ordered Jan. 25; delivery completed Aug. 6; builders, National Steel Car Co., Hamilton, Ont.

300 stock cars, 30 tons capacity; ordered Feb. 6; delivery completed Oct. 3; builders, National Steel Car Co., Hamilton, Ont.

18 sleeping cars and 9 dining cars; ordered June 26; builders, Canadian Car and Foundry Co., Montreal.

6 flangers; ordered July 29; builders, Preston Car and Coach Co., Preston, Ont.

13 observation buffet compartment sleeping cars and 20 mail cars; ordered Aug. 6; builders, Canadian Car and Foundry Co., Montreal.

6 steel snow ploughs; ordered Sept. 8; builders, Canadian Car and Foundry Co., Montreal.

25 six wheeled switching locomotives ordered Jan. 28; 19 delivered; builders, Canadian Locomotive Co., Kingston, Ont.

25 Pacific type locomotives; ordered Feb. 14; delivery completed Oct. 31; builders, Montreal Locomotive Works Ltd., Montreal.

Freight and Passenger Traffic Notes.

The Canadian National Rys. has put on 2 extra sleeping cars and a buffet car on the through train, operating over the C.P.R., the St. John and Quebec Ry., and the National Transcontinental Ry., between St. John, N.B., and Quebec City.

Following is a comparative statement of the number of loaded cars hauled over the Quebec bridge for the week ended Oct. 22:

	1919	1918
From Bridge Station to Chaudiere Jct....	453	298
From Chaudiere Jct. to Bridge Station...	275	189

The Board of Railway Commissioners has authorized the Canadian National Rys. to reduce its train service on its branch between Kinmount Jct., and Bancroft, Ont. (Irondale, Bancroft and Ottawa Ry.), from a daily service to a triweekly one.

J. D. McArthur, President, Edmonton, Dunvegan and British Columbia Ry., is reported to have said in Edmonton, Alta., Nov. 13, that it was not now a question of traffic to be created to and from the Peace River country, but of getting motive power and cars to handle it.

The Quebec, Montreal and Southern Ry., has been ordered by the Board of Railway Commissioners to restore the train service in effect prior to Jan., 1918, between Montreal and Sorel, Que. The board has approved the company's train service between St. Lambert and Fortierville, Que.

In connection with a press report, stating that the Canadian National Rys. was about to put in operation a night train service between Quebec and Chicoutimi, Que., over the Quebec and Lake St. John Ry., J. E. Morazain, General Superintendent, Quebec, is reported to have said, Nov. 19, that it was not contemplated to put on such a service until next spring.

The Canadian Pacific Ry. has put into effect a 6 days a week double train service between Montreal and St. John, N.B. The trains leave Montreal at 12.30 p.m., and 7 p.m., reaching St. John at 6.45 a.m., and 1.20 p.m., while the corresponding trains leave St. John at 4.20 p.m. and 7.45 p.m., reaching Montreal at 8.30 a.m. and 12.20 p.m.

The Dominion Parliament at its recent session, passed an act amending the Immigration Act, requiring that transportation companies shall provide immigration officers with whatever transportation they need in carrying out their duties. The new provision places immigration officers in the same class, in this respect, as customs officials.

The Dominion Atlantic Ry. has had a sleeping car tariff of 6 mills a mile with minimum charges of $1.50 for lower berths, and $1.25 for upper berths; $6 for drawing room, and $5 for compartments, approved by the Board of Railway Commissioners, in connection with he operation of its new train service between Halifax and Yarmouth, N.S., referred to in Canadian Railway and Marine World for November, on pg. 589.

The Edmonton, Dunvegan and British Columbia Ry. is reported to have taken into Edmonton, Alta., during the week ended Oct. 25, 770,000 bush. of grain from the Peace River country, in addition to 28 cars of cattle and horses, 15 cars of merchandise, 8 cars of hay, 19 cars of wood products and 7 cars of coal. The company carried out from Edmonton during the same week, 66 cars of merchandise, 9 cars of settlers' effects, 22 cars of cattle and 5 cars of horses.

The C.P.R. inaugurated on Nov. 20 a round trip service between Montreal and Halifax, N.S. A train leaves Montreal daily at 12.20 p.m., reaching St. John, N.B., on the following morning in time to connect with the Dominion Atlantic Ry. steamship Empress, leaving at 7.15 a.m., for Digby, N.S., reaching Halifax about 7 p.m. The through connection from Halifax to Montreal, via Digby, has been provided for some time, and now that provision has been made for this from Montreal to Halifax, thus making the round trip possible without a delay at St. John, N.B.

The Railway Association of Canada Succeeds the Canadian Railway War Board.

The Canadian Railway War Board, which succeeded the Canadian Railway Association for National Defence, which was organized in Oct., 1917, ceases to exist on Dec. 1, when its place will be taken by the Railway Association of Canada. One of the Canadian Railway War Board's officials is credited with the following statement:—"The Canadian Railway War Board was formed to perfect co-operation among the big railways in the interest of national efficiency in war time. There had not been any tie-up of Canadian railways up to that time and the board was created to serve as a clearing house for information, opinions and ideas and the exchange of mutual assistance. Any shortage of cars or equipment on one road was met through the board by loans from other members' lines having a surplus on hand.

"The co-ordination of railways in the United States and Great Britain had to be brought about by the expropriation of roads by the government. Canada, on the other hand, achieved much more nearly perfect co-ordination by a purely volunteer association of railways.

"The new organization, the Railway Association of Canada, is not a railway protective association, but is to be carried on with a view to maintaining the high degree of efficiency of Canadian railways and to promote still greater efficiency, in the interest of the shipper, the Canadian working man and the public in general.

"The Canadian Railway Board of Adjustment No. 1, formed to take care of labor matters, and which is composed of six members appointed by the railway workers through their unions, and six members appointed by the Canadian Railway War Board, will not be affected by the change, but will continue to operate as before."

The duties of the Railway Association of Canada will be recommendatory rather than administrating, as the Canadian Railway War Board's duties were. Article 2 of its constitution is as follows: "The purposes of the association are, consideration and recommendation upon matters pertaining to the operation of steam railways in the Dominion of Canada. To make such representations to the Government of Canada, the Board of Railway Commissioners for Canada, or to such other public bodies or other railway associations as in the opinion of the association may be desirable in matters of common interest to member companies. To act on behalf of member railways, either jointly or severally, as may be authorized, as the executive committee may from time to time approve."

The following officers and committees were elected at a meeting of railway officers in Montreal, Nov. 8:

Honorary Chairman, Lord Shaughnessy, Chairman, C.P.R. Co.

President, H. G. Kelley, President, G.T.R.

Executive Committee—D. B. Hanna, President, Canadian National Rys.; H. G. Kelley, President, G.T.R.; E. W. Beatty, President, C.P.R.; A. H. Smith, President, Ottawa & New York Ry.; J. N. Beckley, President, Toronto, Hamilton & Buffalo Ry.

Operating Committee — Grant Hall, Vice President, C.P.R.; W. D. Robb, Vice President, G.T.R.; M. H. MacLeod, Vice President, Canadian National Rys.; F. F. Backus, General Manager, Toronto, Hamilton & Buffalo Ry.; J. H. Walsh, General Manager, Quebec Central Ry.

Traffic Committee—C. A. Hayes, Vice President, Canadian National Rys.; J. E. Dalrymple, Vice President, G.T.R.; W. R. MacInnes, Vice President, Canadian Pacific Ry.; G. C. Martin, General Traffic Manager, T., H. & B.R.; Carl Howe, Traffic Manager, Canada Southern Ry.

Legal Committee—W. C. Chisholm, General Solicitor, G.T.R.; W. H. Curle, General Solicitor, C.P.R.; G. Ruel, Counsel, Canadian National Rys.; F. E. Robson, General Solicitor, Canada Southern Ry.; E. D. Cahill, General Solicitor, T., H. & B.R.

Financial Committee—I. G. Ogden, Vice President, C.P.R.; F. Scott, Vice President, G.T.R.; A. J. Mitchell, Vice President, Canadian National Rys.; W. H. Maund, Secretary-Treasurer, T. & N.O.R.; E. V. Barber, Comptroller, Algoma Central & Hudson Bay Ry.

Railway Finance, Meetings, Etc.

Canadian Pacific Ry.—The directors on Nov. 10, declared a dividend of 2½% on the common stock for the quarter ended Sept. 30, being at the rate of 7% per annum from revenue, and 3% per annum from special income, payable Dec. 31, to shareholders of record Dec. 1.

Timiskaming and Northern Ontario Ry.—

	Aug., 1919	Aug., 1918
Passenger earnings	$ 94,119.03	$ 64,798.36
Freight earnings	178,262.60	171,873.47
Total earnings	272,381.63	236,671.83

Canadian National Railways Board to Be Reorganized.

The following is the official report of the statement made on this question during the consideration of the bill for the acquisition of the G.T.R. in the House of Commons at the recent session:—

W. D. EULER, M.P. for North Waterloo: "I was very glad to read in Hansard the following remark made by the Minister of Railways a few days ago: 'There is another matter that I wish to mention in connection with this great railway undertaking. When these two railway systems are operated as one system it will be absolutely necessary for the government to select a management and a staff of the best men that can be found no matter where they come from, to operate this whole new complete system, and those who are decided upon must assume this responsibility.'

"I gather from that, and I would like to be corrected by the Minister of Railways if I am wrong, that it is his intention to appoint a new board to manage the enlarged national system.

Hon. J. D. REID, Minister of Railways: "The hon. member is absolutely right. I made that remark the other day, and if I can use any other words to make the expression stronger, I wish to be understood as doing so. I repeat that so far as I am concerned this road will be operated by the best railway men that we can get, no matter where they come from. The intimation or insinuation of a gentleman opposite—I think it was the member for North Cape Breton and Victoria (D. D. McKenzie)—that the management of these railways would be turned over to the present management was absolutely wrong. The whole board will be reorganized and a set of railway men will operate the system entirely independent of myself or any other man."

Mr. EULER: "I understand, then, that it is the intention to reorganize the whole board?"

Hon. J. D. REID: "Certainly."

Grand Trunk Railway's Indebtedness to Dominion Government.

In answer to a question as to the amount the Dominion Government claims the G.T.R. owes it, the Minister of Railways stated, in the House of Commons, recently, as follows:

Advance made to G.T.R. Co. prior to Confederation, $15,000,000.

Due Railways Department on rail account, $1,279,760.07.

Balance owing Canadian Government Rys. from Grand Trunk, Grand Trunk Pacific and subsidiaries and Grand Trunk Pacific receivership, Sept. 30, 1919, $1,040,346.79.

July 1, 1918, advance to enable company to meet interest payments on G.T. Pacific securities, $593,733.

Sept. 1, 1919, advance to enable company to meet interest payments on G.T. Pacific securities, $554,800.

G.T. Pacific Ry. Co., a subsidiary of the G.T.R.

Securities purchased by government under terms of the G.T. Pacific Implementing Act, 1913, £6,800,000, and being part of guaranteed securities issued under chapter 98, of acts of 1903, $33,093,000. Loan of $6,000,000 made against deposit of $7,500,000. Government guaranteed securities issued under chap. 34, acts of 1914, $6,000,000. Cash advances to company at various times as follows: Under G.T. Pacific Loan Act, 1909, $10,000,000; under G.T. Pacific Loan Act, 1913, $15,000,000; under Appropriation Act of 1916, $7,081,783.45; under Appropriation Act of 1917, $5,038,053.72; under Appropriation Act of 1918, $7,471,399.93. Total cash advanced, $44,591,137.10.

In addition to the above the G.T.P.R. owes the Dominion Government for interest on various advances as per statement rendered the company to Oct. 1, 1919, $7,568,983.83.

Grain Inspected at Western Points.

The following figures, compiled by the Dominion Bureau of Statistics, show the number of cars of grain inspected on railways at Winnipeg and other points in the Western Division, for Oct., 1919, and for two months ended Oct. 31, 1919 and 1918, respectively,—

	Oct., 1919	2 mons. to Oct. 31, 1919	2 mons. to Oct. 31, 1918
C.N.R.	8,645	15,745	15,182
C.P.R.	13,716	24,594	70,203
G.T.P.R.	4,508	6,887	15,311
G.N.R. (Duluth)	210	340	1,025
Totals	26,629	47,566	137,721

Paving Charges—The London, Eng., County Council is planning to ask the British Parliament to relieve it of liability for the maintenance of roadways in thoroughfares on which there are tramways, and to provide that no part of street improvements be charged to tramway account, except such improvements as are solely and specifically required for the working of the tramway system.

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

TORONTO, CANADA, DECEMBER, 1919.

PRINCIPAL CONTENTS.

Maintenance of Freight and Passenger Terminals.

The following report was presented at the Roadmasters' and Maintenance of Way Association's annual meeting at Chicago, recently, by a committee of which L. M. Denney, C.C.C.& St,L.R., Indianapolis, was chairman, and of which D. McCooe, Superintendent of Track, G.T.R., Toronto, was a member.

Never before in the history of our association have the burdens of those connected with terminal maintenance been greater than in the past two years, and particularly during the past six months of retrenchment. To assist in overcoming some of these troubles your committee offers the following report.

In large terminals, sections should be established so that yard gangs will be of a uniform size of 15 to 18 men, with a foreman and one assistant foreman. Main line gangs should not be as large as those employed in yards, as the work must be done to a higher standard and needs closer supervision. Section limits should be worked out by the supervisor or roadmaster on the equivalent mileage basis, giving due consideration to traffic and other local conditions. In terminals a regular force of laborers should be employed throughout the year to take care of regular maintenance work, with extra gangs for such work as rebuilding ladder tracks, laying rail and other special work.

Water being a natural enemy to good track, the subject of drainage cannot be too forcibly impressed upon the minds of those responsible for the upkeep of track. Drainage in terminals is generally confined to surface drains, and in most cases is not sufficient. To this is due the poor condition of many terminals in regard to surface, poor ballast and broken rails. In large and busy classification, freight house and locomotive house yards, surface drains should not be depended upon, but a sub drain system should be installed, with catch basins and lateral drains, where needed, to carry off the water. Sub drains, where installed, to be back filled with cinders or other porous material. Roadmasters and supervisors should see that all surface drains are free from obstructions and repeatedly recommend sub drains where needed.

In large terminals, a regularly assigned work train, with a work train gang, is necessary for the economical handling of material and supplies. The work train should have a designated headquarters, and a track or tracks assigned to work train equipment and maintenance of way material. Cars so placed can be obtained and handled by the work train without delay. With our present work day of 8 hours and limited forces, it is necessary that work trains be given more opportunity to do their work than in former times. Work trains are often idle for half an hour or more by the failure of some yardmaster to co-operate. Such delays should be shown to the management in the same way that the operating department shows delays to trains.

In many instances, passenger car, freight house and heavy team yards were designed and built years ago, using heavy curves and switches with nos. 4, 5 and 6 frogs. In those days such frogs and curves were not unsatisfactory, due to the fact that equipment and loads were light. In making extensive repairs to such tracks the layout should be changed where possible, so as to eliminate excessive curvature, thereby reducing future maintenance cost. In most train and classification yards, the layout has not been from the standpoint of maintenance, and in such yards maintenance work is heavy and expensive. When such yards are rebuilt, they should always be rearranged where possible, in order to improve both the transportation and maintenance feature, instead of relaying to the old layout.

It is generally the practice of railways to use any material in the terminal when it is of no further use on main line or branch divisions. For this reason rail in terminals is usually of poor quality. In heavy terminals, switching ladders should be laid with manganese frogs, manganese tip switch points and automatic safety switch stands. Bolts of the proper size and length should be used so they may be properly tightened without waste of labor or material. Sufficient emergency material should be on hand in each yard to take care of emergency ends.

The policing of yards is a problem of ever increasing seriousness and varies with the different yards and kind of freight handled. In some yards it is necessary to clean tracks every 2 months; in others every 6 months. Cleaning yards with a work train, with flat cars and a gang of 30 men, will cost approximately $15 per 1,000 ft. of track Such tracks as station, passenger car yards and repair tracks should be cleaned daily by regularly appointed attendants, and the cleanings put in a rubbish car, if one can be conveniently placed. In yards where the daily accumulation is heavy, an incinerator plant would be advisable.

In heavy classification yards it is generally difficult to obtain a track to make repairs, and for this reason repairs are generally made out of face. Arrangements are made and a designated track is put out of service for the working period of the day; a car with necessary supplies, such as ties, angle bars and other material is set out on the track. The day's work is carried through, and all old ties and track scrap material are placed on the car, and track left in service for the night. Where sufficient force is available the track can be worked from both ends in the same manner.

In such yards the rebuilding of ladder tracks is the most difficult work in the maintenance of terminals. In doing this work it is necessary that everything possible be done in advance of breaking the track. All material must be checked, all rail cut and drilled for lead rails, all switch ties properly marked so lengths can be identified at a glance. Where conditions permit, all material should be placed on the ground opposite the ladder. Where this is not consistent, all material should be assembled on cars so loaded that it can be unloaded as used. Arrangements should be made to suspend operation over the ladder for 4 hours, during which time a gang of 40 men, experienced in laying switches, can renew 3 switches. All old material to be removed to a place of safety same day work is done. On ladder tracks, where the use of the track cannot be given up for any definite period of time, it is necessary to renew the rail on the old ties, a switch at a time, and renew the ties singly. This work is very expensive and it is difficult to accomplish good work.

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

Bathurst Lumber Co.'s Development—We are officially advised that the Bathurst Lumber Co. has arranged to proceed with the development of the water power at the Great Falls of the Nipisiquit River, N.B., and that it has leased for two years the roadbed of the Northern New Brunswick and Seaboard Ry. from Nipisiquit Jct., 4 miles east of Bathurst for two years for use during construction. The rails on this line from Nipisiquit Jct. to the Canada Iron Corporation's iron mines, which were taken up during the war and laid temporarily on a section of the St. John and Quebec Ry., are being relaid, the work being about half completed when we were advised on Nov. 20. The contractors are Morrow and Beatty, Peterborough, Ont., who are using their own locomotives. The Bathurst Lumber Co. does not propose to buy any locomotives or rolling stock, and has no intention of keeping the railway in operation after the water power development is completed.

Canadian Niagara Bridge Co.—A press report of Nov. 15 states hat the C.P.R. has surveyed a line from north of Welland, Ont., to the Niagara River, a mile and a half above Black Creek, where an international bridge will be built across the river.

The first reference to any direct connection of the C.P.R. with railway activities in the Niagara peninsula was in April, when it was reported that the company had acquired 5,000 acres of land on Grand Island, Niagara River, opposite Bridgeburg, Ont. On April 4, Montreal officials of the company said they knew nothing of the matter. Nothing more has been heard about it until the statement of the present surveys having been made by the C.P.R. It may be taken for granted that the C.P.R. has nothing to do directly with the projected developments in the Welland-Bridgeburg district, but that it is interested indirectly through the Toronto, Hamilton and Buffalo Ry., which is owned by the New York Central Rd., the Michigan Central Rd., and the C.P.R. In 1918 the Dominion Parliament incorporated the Canadian Niagara Bridge Co., to build a bridge across the Niagara River, the Canadian end to be located between Chippawa and Fort Erie, and to build lines not exceeding 6 miles to connect the bridge with existing railways, the provisional directors of the company being Lord Shaughnessy, J. N. Beckley, E. S. Cahill and W. P. Torrance, all of whom are associated with the T., H. & B.R. Owing to the Michigan Central Rd., taking over for its own purposes certain lands, the bridge company obtained power from parliament at the first session of 1919, to build 12 miles of line instead of 6, the line to be built from Welland to Bridgeburg. The Senate was then advised that all arrangements had been completed for building the line, and the bridge, and that after the passing of the act, preparations for the work would be gone on with. The press report quoted above, no doubt, refer to the line from Welland to the Niagara River, at the Canadian end of the projected bridge. (Aug., pg. 431).

Esquimalt and Nanaimo Ry.—We are officially advised that a contract has been let to the Foundation Co., Vancouver, B.C., for clearing the right of way for a railway from two miles west of Port Alberni on the present line to Alberni, Vancouver Island, to Great Central Lake, 11 miles, and the work is in progress. The character of construction of the new line will be similar to that of the line to Port Alberni; the maximum gradient will be 1.5%. It has not been decided what weight of rails will be used.

We are advised that clearing of the right of way is about 40% completed. The work is under the supervision of R. A. Bainbridge, Division Engineer, E. & N.R., Victoria.

Nothing definite has been decided with regard to any extension of the line north of Courtenay, but plans are being prepared for improvements at Nanaimo wharf, and for the erecion of a new station at Nanaimo. (Nov., pg. 602).

Grand Trunk Ry.—The Board of Railway Commissioners has authorized the company to take certain lands at Gravenhurst, Ont., for additional tracks and terminal facilities.

The Board of Railway Commissioners has authorized the rebuilding of the overhead bridge at mile 92.50, district 20, London Division, carrying Mechanic St., over the rack at Drumbo, Ont., and also the renewal of the overhead bridge at mile 84.35 from Black Rock, District 20, London Division, carrying John St., over its tracks at Paris, Ont.

We are officially advised, in connection with the extension of the company's yards at London East, Ont., that 21,980 ft. of new track will be laid. The extensions of the several tracks are:—No. 1, 2,280 ft.; no. 2, 1,865 ft.; no. 3, 1,765 ft.; no. 4, 1,685 ft.; no. 5, 1,325 ft.; no. 6, 1,735 ft.; no. 6, 1,735 ft.; no. 7, 2,280 ft.; no. 8, 2,190 ft.; no. 9, 2,075 ft.; no. 10, 1,935 ft.; no. 11, 1,530 ft. Two new ladder tracks, one 815 ft. and the other 500 ft. long, have been laid. Approximately 50,000 center yards of material were used to fill into sub-grade. The tracks in the entire yard are now at 13½ ft. centers; the lead at the west end of the yard (Egerton St.), has been rearranged, and curves have been flattened out to give better operating conditions. (Oct., pg. 536).

Grand Trunk Pacific Ry.—The Board of Railway Commissioners has ordered the erection of a station building at Lorlie, Sask., mile 22 from Melville, on the branch from Melville to Regina, Sask. We are officially advised with respect to the diversions under consruction at Urling, mile 1,179, and Shere, B.C., mile 1,101 from Winnipeg, that they are simply changes in alignment, and the construction of fills in order to keep away from the sliding banks, which have given considerable trouble. The work was put in hand at the beginning of this year, and it is anticipated that it will be completed early in 1920. The contractors are Carleton and Fetter, Prince George, B.C. (Nov., pg. 602).

Great Northern Ry.—The Vancouver, B.C., City Council's railway committee has recommended that the company's application for permission to erect a cabin on the city boulevard, in which to operate the interlocking switch at the intersection of the British Columbia Electric Ry. and the G.N.R. tracks on Georgia St. E., be granted.

Hudson Bay Ry.—The Minister of Justice stated in he House of Commons, Nov. 10, in answer to an enquiry, hat the approximate estimate to complete track laying from Kettle Rapids, mile 332, to Port Nelson, mile 424, with permanent structures over Limestone and Kisemachisk Rivers, using 80 lb. steel ballasting, train filling, erecting tanks and telegraph line, is $1,750,000. In answer to the question, "Will the financial condition of the country now permit of this cost being incurred?" the Minister said that work on the H.B.R., and certain other public works, was closed down during the war.

Kettle Valley Ry.—A press report states that the branch line from Grand Forks to Lynch Creek, is being relaid with heavier rails, and is being reballasted. A number of additional side tracks are also being built. This branch serves a mining area only. It is reported that the company is negotiating with the British Columbia Government in regard to an extension of its lines south of Penticton, and that it is probable an agreement will be reached within the next few weeks, but the agreement would have to be ratified by the legislature before any action could be taken under it. (Nov., pg. 602).

Lacombe and North Western Ry.—We were officially advised recently that the Alberta Government, which owns the line, expected to have the track laid into Rimbey, Alta., by the end of November. With regard to the reports that the line might be acquired by the C.P.R., we are officially advised that although the latter company has made some preliminary investigations, both from physical and revenue producing standpoints, no advances or offers to purchase have been made.

Lake St. John, Que.—Chicoutimi and Lake St. John District residents have asked the Quebec Government to consider the question of building a belt railway round Lake St. John, with branches to connect with the Ha Ha Bay section of the Roberval-Saguenay Ry., and with the Quebec and Saguenay Ry.

Pacific Great Eastern Ry.—The Premier of British Columbia is reported to have stated recently that some trouble had developed near Lac La Biche, where the track was continually subsiding, and that piles and trestles were being put in as a temporary expedient, but in all probability the line will have to be taken from the present location along an old creek dam, to higher ground. With respect to the proposal to relocate the line near the Cottonwood River, in order to avoid shifting hillsides and to run the line through Quesnel, the Premier stated that surveys were about completed. The relocation of the line would involve the abandonment of about 15 miles of grading completed by the old company. The new survey would shorten the route by 4.73 miles; would lower the crossing between Ten Mile Lake and Cottonwood River by 37 ft., and would eliminate considerable curvature. The Cottonwood River crossing would require a bridge 400 ft. long, as compared with one of 1,800 ft. of steel work and 1,200 ft. of trestlework on the old location. The estimated cost of the 10 miles of new location, including bridge work, is $500,000. A. W. Vassir was the locating engineer in charge of the relocation survey.

The bridge at Deep Creek, mile 294 from Squamish, for which tenders were invited recently, will have a total length

of 1,163 ft. 8 in. between parapet walls. The substructure will consist of 2 reinforced concrete abutments, and 24 pedestals of 1-2-4 concrete, set in 6 groups of 4 pedestals each. On these pedestals will be carried steel towers, 2 of 70 ft. span each, and the 4 center ones of 80 ft. span each; the towers being linked up to each other, and to he abutments by seven 100 ft. deck plate connecting girders. The two central towers, which will give the bridge a height of 290 ft. to base of rail, will have a spread of 89 ft. 11 in. center to center of pedestals, east to west, and 80 ft. south to north; the other towers being on rising ground will have a proportionately lesser spread east to west. The southern approach will be on a spiral, ending on the first tower. The construction of the bridge involves a diversion of the Deep Creek so as to carry it between the two central spans, a diversion of approximately 100 ft. to the south.

A press report states that Major Cecil Ewart has been engaged by the British Columbia Government to locate a branch from the P.G.E.R. at Clinton to Ashcroft. He was overseas with the 9th Battalion, Canadian Railway Troops. (Nov., pg. 602).

Pas, Man., to Flin Flon Mines—A press report states that engineers representing Hayden, Stone and Co., of Boston, Mass., have returned from making an investigation of the Flin Flon copper mining properties in Northern Manitoba; that they are favorably impressed with the properties, and that the negotiations for purchase will likely be concluded during December. For the future development of the property a railway about 70 miles long would have to be built from Pas, Man. Some negotiations for the building of this line have already been carried on with the Canadian National Rys., and it is stated that should these not be successful, the line will be built by the Manitoba Government. (Nov., pg. 602).

Quebec and Chibougamau Ry. Co.—The Quebec Legislature is being asked to incorporate a company with this title to build a railway from Quebec City northerly through Quebec, Montmorency, Charlevoix and Chicoutimi Counties to Chicoutimi on the Saguenay River, thence northwesterly through Chicoutimi and Lake St. John Counties to Chibougamau Lake. The provisional directors are: J. Cote, E. Parodes, Quebec; M. Paris, Montreal; D. Roy, Beaumont, Que.; W. J. Ewin, Richmond, Que.

Quebec, Montreal and Southern Ry.—Napierville Jct. Ry.—These two lines are controlled and operated by the Delaware and Hudson Co., of which F. P. Gutilius, formerly General Manager, Canadian Government Rys., is Federal Manager. Accompanied by the D. and H. Co.'s Chief Engineer, he spent some time recently in Quebec and is said to have gone over the country between the company's lines and Quebec, and also to have visited Murray Bay, and other points on the Quebec and Saguenay Ry. The visit was reported to be of a personal character, but press reports now connect it with an extensive plan of railway building in order to give the D. and H. Co. connection with Quebec and beyond. The reports state that the plan is to acquire the charter of the Quebec Eastern Ry., which was owned by the interests owning the Lotbiniere and Megantic Ry., and to buy the Quebec Ry., Light and Power Co.'s Montmorency Division and the Roberval-Saguenay Ry. The construction of the lines authorized under the Quebec Eastern Ry. charter would give the D. and H. Co. an entrance into Quebec over the bridge. The purchase of the Quebec Ry., Light and Power Co.'s Montmorency Division and the Quebec and Saguenay Ry., would give connection with Murray Bay, whence a line is projected to Ha Ha Bay and Chicoutimi, there connecting with the Roberval-Saguenay Railway. The reported project is an extensive one, but it is still in the rumor stage. (Aug., 1918, pg. 337).

Roberval-Saguenay Ry.—A Quebec press report states that terminals are being built at Ha Ha Bay on the Saguenay River to accommodate the Roberval-Saguenay Ry., and possibly other railways that may find it advantageous to use that point in lower Quebec. (Nov., 1918, pg. 488).

The St. George's Coal Fields Ltd.—A Newfoundland corporation is reported as planning extensive developments, including the building of railway lines. T. J. Freeman is the Manager.

St. John and Quebec Ry.—In a report to the New Brunswick Government the directors stated, Nov. 13, that construction on the line was practically completed; that the turntable at Gagetown is to be removed to Westfield, N.B., and submitted the contractor's final estimates for approval. Some small items of work, which had been delayed, owing to the difficulty of obtaining supplies, were being done by Canadian National Rys. section men.

Dominion Atlantic Ry.—Grant Hall, Vice President, C.P.R., who arrived in Halifax, N.S., Nov. 20, after a trip of inspection over the D.A.R., is reported to have said that before long the present light rails on the D.A.R. will be replaced with heavier ones. War conditions had delayed this work, but it will now be undertaken. Digby, N.S., citizens, at a meeting, held Nov. 17, decided to close a portion of Prince William St. to vehicular traffic in order that the D.A.R. may secure a suitable site for the projected new station building. It is said that the building will cost from $60,000 to $65,000, and that it will be completed during 1920. (Nov., 1918, pg. 488).

British Transport Ministry Organization—The organization of the staff of the Minister of Transport in Great Britain is reported to be proceeding. It is stated that there are to be nine separate departments, the head of each of which will be directly responsible to the minister for the work under his control. Following is a list of these departments with their heads:—Chief Mechanical Engineer, Col. L. Simpson; Director-General of Civil Engineer, Sir A. Gibb; Director-General of Development, Sir C. de Bartolome; Director-General of Traffic, Sir P. Nash; Secretary and Solicitor, Sir F. Dunnell; Director-General of Finance and Statistics, Sir G. Beharrell; Director-General of Public Safety and General Purposes, Sir W. Marwood; Director-General of Roads—Sir H. Maybury; Director-General of Transport (Ireland), H. G. Burgess.

Werner Horn, who claimed to be a German officer, has been found guilty by a New Brunswick jury, of attempting to blow up the C.P.R. bridge over the St. Croix River, N.B., Feb. 2, 1915, and has been sentenced to 10 years imprisonment. He was removed to the penitentiary at Dorchester, N.B.

United States Railroad Administration Notes.

President Wilson on Nov. 18 vetoed the bill restoring to the Interstate Commerce Commission its pre-war rate making power.

The Senate Interstate Commerce Committee, on Nov. 5, decided on temporary legislation to continue government guaranteed returns to railways, if they return to private control on Jan. 1, until Congress can enact permanent legislation.

The regional supervisor of eastern United States railways, reporting on the results of the national railway accident prevention drive from Oct. 18 to 31, gives the Grand Trunk Ry. lines the highest place, as during that period there were no accidents reported on its New England lines.

Representative Denison stated in the House of Representatives at Washington, Nov. 12, that under the permanent railway legislation proposed in the house bill, the Railroad Administration's estimate that Congress will have to appropriate $363,355,000, to square accounts for the period of government operation of carriers ending Dec. 31.

The Director General announced Nov. 2, that the administration was about to file with the Interstate Commerce Commission, effective upon 5 days notice, supplements to tariffs, providing for establishment of minimum weights on grain and grain products, designed to secure heavier loading, and to make available additional freight cars for transportation of grain and grain products.

A Washington, press dispatch states it was reported to the Senate Interstate Commerce Committee, Nov. 15, that in he event of the Cummins' bill being passed the government will be required to appropriate $415,451,000 in addition to the $1,250,000,000 already appropriated for railways, making the total indebtedness of the railways to the government $1,665,451,000. Under the provisions of the loan the rate of interest is to be 6% and the companies are to furnish such collateral sa the President may deem it advisable to require.

Victoria and Sidney Ry.—A British Columbia court on Oct. 31, directed the sale of the Victoria and Sidney Ry. right of way, upon an application by the trustee for the debenture holders. This line was built by a local company under a guarantee of bonds by the B.C. Government. It extends from Victoria to Sidney, Vancouver Island, 17 miles, and for a number of years was operated by the Great Northern Ry. (U.S.A.), a ferry service being maintained with the mainland. The line has not been operated for nearly two years, and negotiations for its continued operation, either in whole or in part, by the Canadian National Rys., or the British Columbia Electric Ry. having failed, the debenture holders are realizing the company's assets The opening of the B.C.E.R. line to the Saanich peninsula and the Caadian Northern Ry. line between Victoria and Patricia Bay, cut off a good deal of the V.& S.R. traffic.

The Edmonton, Dunvegan and British Columbia Future—The Minister of Justice informed the House of Commons, Nov. 10, that the Dominion Government did not propose to purchase the Edmonton, Dunvegan and British Columbia Ry. "at the present time."

Mainly About Railway People Throughout Canada.

George Annand, who is said to have been the oldest pensioned G.T.R. employe, died at Oshawa, Ont., Nov. 12, aged 92. He entered G.T.R. service in 1856 and at various times was agent, at Coteau and St. Annes, Que., and Gananoque, Newcastle, Trenton and Oshawa, Ont.

William Edward Gladstone Bishop, whose appointment as Division Freight Agent and District Passenger Agent, Canadian National Rys., Cochrane, Ont., was announced in our last issue, was born at Central Clarence, N.S., Dec. 4, 1888, and entered railway service, Aug. 5, 1908, since when he has been, to Oct., 1910, stenographer, District Freight Agent's office, Intercolonial Ry., Halifax, N.S.; Oct., 1910, to Oct., 1914, in General Freight Agent's office, Intercolonial Ry., Moncton, N.B.; Oct., 1914, to May 1, 1916, chief clerk, District Freight Agent's office, Canadian Government Rys., Halifax, N.S.; May 1, 1916, to Oct. 1, 1919, Travelling Freight Agent, Canadian Government Rys., Halifax, N.S.

Earl Brassey, who was killed in London, Eng., Nov. 13, in a motor car accident, was a grandson of Thos. Brassey, a well known railway contractor between 1805 and 1870, and one of the builders of the original Grand Trunk Ry. and the G.T.R., Victoria bridge, Montreal.

Ernest Robert Bruce, whose appointment as Director of Exhibits, Colonization and Development Department, C.P.R., Montreal, was announced in our last issue, was born in England, Oct. 9, 1877, and entered C.P.R. service Mar. 1, 1910, since when he has been, to Mar. 1, 1912, in charge of farm development work, Natural Resources Department, and from Mar. 1, 1912 to Aug. 1, 1919, Director of Exhibits, attached to Publicity Department, Calgary, Alta.

Sir George Bury, President, Whalen Paper & Pulp Co., left Vancouver, Oct. 30, for China, accompanied by his daughter, Mrs. H. R. Drummond-Hay, of Winnipeg, and C. W. Harrison, Sales Manager, Whalen Pulp & Paper Co. He is not expected to return to Vancouver until the end of January, or early in February.

M. J. Butler, C.M.G., Managing Director, Armstrong Whitworth of Canada, Ltd., Montreal, has retired and taken up residence at Oakville, Ont. He was born at Deseronto, Ont., Nov. 19, 1856, and educated in the public schools and Toronto University. From 1878 to 1883 he was engaged on government surveys and in 1884 was one of the engineers on the Kingston and Pembroke Ry.; 1884 to 1885, Chief Engineer, Thousand Island Ry.; 1885, Chief Engineer, Napanee, Tamworth & Quebec Ry.; 1886 to 1887, engaged in water service engineering; 1890 to 1899, Chief Engineer, Bay of Quinte and Navigation Co.; 1900 to 1903, Chief Engineer, Locomotive and Machine Co., Montreal (now Montreal Locomotive Works Ltd.); 1903 to 1908, Assistant Chief Engineer, Eastern Division, National Transcontinental Ry.; 1908 to Jan., 1910, Deputy Minister and Chief Engineer, Railways and Canals Department, and from April, 1909, also Chairman of the Board of Management, Canadian Government Railways; January, 1910, General Manager, Dominion Iron and Steel Co., and subsequently Managing Director, Armstrong Whitworth of Canada, Ltd.

Jos. Carroll, assistant station master, Toronto union sation, died Nov. 9, aged 59, from pneumonia. He was born in Dublin, Ireland, and came to Canada at the age of 17. He entered G.T.R. service as a brakeman, and while a conductor, los his right foot through an accident in the Parkdale yards, and subsequently occupied the position which he held at the time of his death.

Hon. F. B. Carvell, Chief Commissioner, Board of Railway Commissioners, left Ottawa, Nov. 12, to preside at sittings of the board at various points in the prairie provinces and in British Columbia.

E. J. Chamberlin, ex-President, G.T.R. and G.T. Pacific Ry., and Mrs. Chamberlin, have left Ottawa for California, to spend the winter.

Frederick H. Clendenning, who has been appointed Foreign Freight Agent, C.P.R., Vancouver, B.C., was born at Montreal, Nov. 9, 1881, and entered transportation service Aug. 1, 1898, since when he has been, to June 30, 1902, junior clerk, Fourth Vice President's office, register clerk, and stenographer, successively, C.P.R., Montreal; July 1, 1902, to Mar. 31, 1903, stenographer and freight clerk, Commercial Agent's office, New York Central and Hudson River Rd., Montreal; Apr. 1, 1903, to Jan. 31, 1904, stenographer, rate and tracing clerk, General Freight Department, C.P.R., Vancouver, B.C.; Feb. 1, 1904, to June 30, 1905, chief clerk, City Freight Office, C.P.R., Victoria, B.C.; July 1, 1905, to Aug. 31, 1908, chief clerk, District Freight Office, C.P.R. and Esquimalt & Nanaimo Ry., Victoria, B.C.; Sept. 1, 1908, to Aug. 16, 1909, City Freight Agent, C.P.R., and District Agent, Esquimalt & Nanaimo Ry., Victoria, B.C.; Aug. 17, 1909, to Mar. 31, 1911, Assistant General Freight Agent, C.P.R., Vancouver, B.C.; Apr. 1, 1911, to Jan. 31, 1914, District Freight Agent, C.P.R., Vancouver, B.C.; Feb. 1, 1914, to May 1, 1919, Division Freight Agent, Steamship Lines, C.P.R., Vancouver, B.C. From Nov. 1, 1918, he was loaned to the British Ministry of Shipping (Canada), and in May, 1919, he was appointed Assistant Foreign Freight Agent, C.P.R., Vancouver, B.C.

George Cobb, who has been appointed Superintendent, Western Division, Reid Newfoundland Co., Bishops Falls, Nfld., was born at Coupar Angus, Scotland, April 21, 1885, and entered Reid Newfoundland Co.'s service Nov. 14, 1901, since when he has been, to Sept. 27, 1903, telegraph operator; Sept. 27, 1903 to May 1, 1905, agent, Gambo; May 31, 1905, to May 20, 1908, night dispatcher, St. Johns; May 20, 1908, to Nov. 11, 1910, emergency dispatcher and agent, Bishops Falls; Nov. 11, 1910 to Jan., 1913, Chief Dispatcher, St. John's; Jan., 1913 to May 26, 1919, Superintendent, St. John's; May 26 to Nov. 11, 1919, Assistant General Superintendent, St. John's.

James Colley, whose appointment as Publicity Agent, Colonization and Development Department, C.P.R., Calgary, Alta., was announced in our last issue, was born at Colchester, Eng., Sept. 19, 1881, and entered C.P.R. service in July, 1912, since when he has been, to March, 1915, clerk, Superintendent's office; March, 1915, to March, 1917, clerk, Natural Resources Department, Sales Branch; July, 1917, to Sept. 30, 1919, Assistant Publicity Agent, Colonization and Development Department, all at Calgary, Alta.

Albert Roy Curran, whose appointment as Paymaster, Eastern Lines, Canadian Northern Ry., Toronto, was announced in our last issue, was born there, July 3, 1887, and entered railway service Aug. 27, 1904, since when he has been, to Oct. 15, 1904, office boy, Chief Dispatcher's office, C.P.R., Toronto; Oct. 16, 1904, to Apr. 30, 1906, junior clerk, same office; Mar. 1, to June 25, 1906, junior stenographer, Division Engineer's office, C.P.R., Toronto; June 26 to Oct. 31, 1906, stenographer, Treasurer's office, Canadian Northern Ry., Toronto; Nov. 1, 1906 to June 30, 1908, clerk, Cashier's office, C.N.R., Toronto; July 1, 1908 to Oct. 30, 1917, Assistant Cashier, C.N.R., Toronto; Nov. 1, 1917, to Jan. 31, 1919, pay car clerk, C.N.R., Toronto; Feb. 1, to Sept. 30, 1919, Assistant Paymaster, C.N.R., Toronto.

Col. J. S. Dennis, C.M.G., Chief Commissioner of Colonization and Development, C.P.R., is one of the directors of Alberta Flour Mills Ltd., which is building a $5,000,000 flour mill at Calgary, Alta.

Jacob Lewis Englehart, whose resignation as Chairman, Timiskaming and Northern Ontario Ry. Commission, Toronto, was announced in our last issue, was born at Cleveland, Ohio, Nov. 2, 1847. He has been for a number of years associated with the oil industry in Canada and the United States, and in 1881 was elected Second Vice President of the Imperial Oil Co. He was appointed to the T.& N.O.R. Commission in March, 1905, and was associated with numerous financial and industrial undertakings in Ontario. In 1910 he founded the Charlotte Eleanor Englehart Hospital at Petrolea in memory of his late wife, and he also presented an X-ray apparatus to St. Michael's Hospital, Toronto.

J. H. Flock, K.C., who died at London, Ont., Nov. 20, aged 85, was Honorary Counsel for the Canadian Ticket Agents' Association for many years. He was responsible for the drafting of a franchise agreement between the London Street Ry. Co., and the city.

C. O. Foss, Chief Engineer, St. John and Quebec Ry., has been granted leave of absence to go to British Columbia for a rest and on private business.

F. C. Foy, formerly Canadian Passenger Agent, New York Central Rd., Toronto, who was transferred to the company's office at Buffalo, N.Y., when the Canadian office was closed, and who was afterwards stationed at Utica, N.Y., for some time, is on a short leave of absence, but is expected to return to the Buffalo office in the near future.

Spencer L. Furniss, Chief Assistant to the European General Manager, C.P.R., was married Oct. 25 in London, Eng., to Miss E. M. H. Booth. He was presented with an address, a case of cutlery, and a silver jewel box, by Sir George McLaren Brown, on behalf of the European staff.

William Garty, who died at Concord, Mass., Nov. 2, was for many years, New England Agent, Chicago, Burlington and Quincy Rd., Boston, Mass., with jurisdiction over Canadian territory.

H. W. Gillis, who has been appointed Assistant Foreign Freight Agent, C.P.R., Montreal, entered the company's service in May, 1905, and has been, to June, 1906, clerk, Mile End station, Montreal;

June, 1906 to June, 1908, clerk, Place Viger freight station, Montreal; June, 1908, to Dec., 1909, billing clerk, Outremont station, Montreal; Dec., 1909 to July, 1911, clerk, General Freight Department, Montreal; July to Sept., 1911, rate clerk, Division Freight Department, Montreal; Sept., 1911, to July, 1913, clerk, General Freight Department, Montreal; July, 1913 to July, 1914, rate clerk, General Freight Department; July, 1914 to March, 1915, assistant chief clerk to Freight Traffic Manager; March, 1915, to Sept., 1918, chief clerk to Freight Traffic Manager; Sept., 1918, to Nov., 1919, chief clerk, Vice President (Traffic), Montreal.

Grant Hall, Vice President, C.P.R., accompanied by a number of other officials, visited Quebec, Nov. 15, for a routine inspection.

M. A. Hutton, chief accountant, Maritime Coal, Ry. and Power Co., Joggins, N.S., has resigned, and removed to Moncton, N.B., where he has engaged in general auditing and accountancy.

Mrs. E. Langham, wife of the General Purchasing Agent, Canadian National Rys., died in Toronto, Nov. 18, aged 59, after a very long illness. Besides her husband, she left a son, Dr. J. D. Langham.

Frank Lee, who has been appointed Engineer Maintenance of Way, Western Lines, C.P.R., Winnipeg, was born at Chicago, Ill., Mar. 7, 1873, and entered railway service in Jan., 1895, as rodman and draftsman on location and construction of extensions to the government railways in Trinidad, British West Indies. He has been, from May, 1896, to Nov., 1902, on construction and maintenance, Chicago and Northwestern Ry.; Nov., 1902 to Jan., 1904, Signal Engineer, C.P.R., Montreal; Jan., 1904, to Aug., 1905, Assistant Engineer, C.P.R., Winnipeg; Aug., 1905 to Apr., 1912, Division Engineer, C.P.R., Winnipeg; Apr., 1912 to Nov. 20, 1917, Principal Assistant Engineer Western Lines, C.P.R., Winnipeg; Nov. 20, 1917 to Oct., 1919, Engineer Maintenance of Way, Eastern Lines, C.P.R., Montreal.

Mrs. W. R. MacInnes, wife of the Vice President in Charge of Traffic, C.P.R., and their daughter, Miss Judith MacInnes, returned to Montreal, Nov. 11, from England.

Lieut.-Col. Martin, of the 7th Canadian Railway Troops, entertained his officers at dinner in Toronto, Nov. 13, when it was decided to carry on the battalion's organization.

Hon. S. C. Mewburn, Minister of Militia, has been acting as Minister of Railways and Canals, during the absence from Ottawa of Hon. J. D. Reid.

Hon. Harry Mills, M.L.A., who has been sworn in as a member of the new Ontario Government, and will be appointed Minister of Mines when that department is created, was born at Birmingham, Eng., Oct. 11, 1873. He entered C.P.R., service at Fort William, Ont., in Aug., 1894, and was, to 1897, wiper; 1897 to 1901, locomotive fireman; 1901 to July 1, 1919, freight locomotive man, and from July 1, 1919, passenger locomotive man, running between Fort William and Ignace, Ont. At the time of his present appointment he was Chief Officer, Division 243, Brotherhood of Locomotive Engineers, and has been a member of the brotherhood's general legislative committee for several years. He was a member of the Fort William Board of Education for 7 years, and chairman for 3 years.

James Hunt Norton, whose appointment as Assistant General Freight Agent, Eastern Lines, Canadian National Rys., Moncton, N.B., was announced in our last issue, was born at Shaftesbury, Eng., Apr. 21, 1884, and entered railway service June 1, 1899, since when he has been, to Dec. 31, 1909, in various positions in Car Service Department, from messenger to Car Accountant's secretary, Intercolonial Ry., Moncton, N.B.; Jan. 1, to Sept. 20, 1910, clerk, General Freight Agent's office, same road, Moncton, N.B.; Sept. 20, 1910, to Apr. 30, 1912, secretary to General Freight Agent, Canadian Government Rys., Moncton, N.B.; May 1, 1912 to May 30, 1917, assistant chief clerk, General Freight Agent's office, C.G.R., Moncton, N.B.; June 1, 1917, to Jan. 22, 1919, Division Freight Agent, C.G.R., and from Jan. 22 to Sept. 30, 1919, Division Freight Agent, Canadian National Rys., Halifax, N.S.

Sydney John Lyle Potter, whose appointment as Local Treasurer, Eastern Lines, Canadian Northern Ry. System, Toronto, was announced in our last issue, was born at Burrington, Devonshire, Eng., Apr. 5, 1887, and entered railway service May 5, 1905, since when he has been, to Oct. 1, 1907, clerk, Great Northern Ry., King's Cross, London, Eng.; Oct. 18, 1907, to Oct. 1, 1915, clerk, Canadian Northern Ry., Toronto; Oct. 1, 1915, to Dec. 31, 1918, Assistant Paymaster, Eastern Lines, same road, Toronto; Jan. 1, to Sept. 30, 1919, Paymaster, Eastern Lines, same road, Toronto.

J. H. Norton,
Assistant General Freight Agent, Canadian National Railways, Moncton, N.B.

Norman S. Rankin, whose appointment as Special Publicity Agent, Colonization and Development Department, C.P.R., Montreal, was announced in our last issue, was born there, Apr. 16, 1875. He was for three years private secretary and paymaster during the construction of the Cuba Rd., and subsequently was engaged in newspaper work in Havana for a year. He was later engaged as Traffic Manager of a steamship company operating between Santiago, Cuba; Kingston, Jamaica; Colon, Panama, and Cayman Islands. He entered C.P.R. service in Nov., 1909, as private secretary to J. S. Dennis, Assistant to President, Calgary, Alta., and has been from Oct., 1910, to Nov., 1911, publicity clerk, Natural Resources Department, Calgary, Alta.; Nov., 1911, to 1916, General Publicity Agent, Natural Resources Department, Calgary. He enlisted for active service in 1916, spent 2 years overseas, and was appointed Publicity Agent, Colonization and Development Department, C.P.R., Calgary, on his return to civil life, July 15, 1919.

D'Arcy Scott, formerly Deputy Chief Railway Commissioner, Board of Railway Commissioners, is reported to have announced in Ottawa, Nov. 7, that he will be a candidate for the mayoralty which he held previously.

J. G. Sullivan, formerly Chief Engineer, Western Lines, C.P.R., was elected an alderman for the City of Winnipeg, at the recent municipal elections.

Charles H. Tillett, who has been appointed Signal Engineer, G.T.R., Montreal, was born at Peru, Ind., Dec. 8, 1884, and entered railway service in Aug., 1907, since when he has been, to Nov., 1907, signal repair man, Pennsylvania Rd., Fort Wayne, Ind.; April, 1908 to Feb., 1910, signal repair man, Great Northern Ry., Seattle, Wash.; Feb., 1910 to July, 1913, Signal Inspector, Chicago and Eastern Illinois Rd., Chicago, Ill.; July to Oct., 1913, Signal Inspector, G.T.R., Montreal; Oct., 1913, to June, 1918, Supervisor of Signals, G.T.R., Montreal; June to Dec., 1918, Electrical Engineer, Signal Department, G.T.R., Montreal; Dec., 1918 to Nov., 1919, acting Signal Engineer, G.T.R., Montreal.

E. N. Todd is General Foreign Freight Agent, C.P.R., Montreal, his jurisdiction covering all lines, and not merely Eastern Lines, as erroneously stated under "Birthdays of Canadian Transportation Men," in Canadian Railway and Marine World for October.

R. C. Vaughan, Assistant to President, Canadian National Rys., left Toronto, Nov. 9, for Vancouver, accompanied by D. O. Wood, Traffic Manager, Export & Import Department, C.N.R., on business connected with Canadian Government Merchant Marine Ltd., and the operation of its ship which are being built at the Pacific Coast. They are expected to return to Toronto early in December.

N. M. R. Wilson, who has been appointed Chief Engineer of Waterworks, Brantford, Ont., was born at Bombay, India, Dec. 3, 1869, and educated in England. He was articled to the Chief Engineer of the Great Northern Ry., there in 1885, and was 5 years in general railway engineering. He was later engaged on the construction of the Highland Ry., Scotland, and for 6 years was Assistant Engineer, North Eastern Ry., engaged in the maintenance and construction of railways and docks. In 1901 he was appointed Resident Engineer, Dearne Valley Ry., now a part of the Lancashire and Yorkshire Ry. He came to Canada in 1907, and entered C.P.R. service as Resident Engineer on the construction of steel bridges, chiefly in New Brunswick, and left railway service in 1909.

Central Argentine Ry. is reported to be arranging to use fuel oil for locomotives instead of coal, and more recently wood.

Canadian National Railways Construction, Betterments, Etc.

Sydney Sidings—A press report states that the Sydney, N.S., City Council has before it the board of works recommendation to grant permission for the installation of a siding, 320 ft. long on Victoria Road.

New Glasgow Station—We are officially advised that the extension to the station at New Glasgow, N.S., for which tenders were invited recently, will be carried out by the railways' own staff, The work consists of the erection of a 2 story brick building 41 x 30 ft. with slate roof, and the remodelling of the interior of the present building.

Fredericton, N.B., Bridge—A press report states that it is proposed to ask tenders shortly for the erection of a new railway bridge across the St. John River at Fredericton, N.B.

Koospeganishe River Bridge — The Board of Railway Commissioners has authorized the rebuilding of the bridge over the Koospeganishe River, Caron Tp., Que., mile 186.2 from Quebec, on the Quebec and Lake St. John Ry.

Rouge River Bridge—The Board of Railway Commissioners has authorized the rebuilding of the bridge across the Rouge River, mile 3.3, on the China Clay spur, Montford Subdivision, Arundel Tp., Que.

Jacques Cartier Bridge—We are officially advised that the boring work for which tenders were, until recently, in connection with repairs to the foundation of the bridge across the Jacques Cartier River bridge, Que.

Beckets Creek Bridge—The Board of Railway Commissioners has authorized the rebuilding of the bridge across Beckets Creek, Cumberland Tp., Ont.; mile 94.25 from Montreal.

The Moira River Bridge over the east channel of Moira River, Stoco Lake, Ont., mile 31.75, Tweed Subdivision, for the renewal of which a contract has been let, consists of 2 through truss spurs, each 145½ ft., center to center, on stone abutments, and pier, and was erected in 1889. The superstructure being of very light design is not of sufficient capacity for present traffic. The bridge is to be renewed by using 3 half through plate girders, 100 ft., 85 ft. and 55 ft., respectively, with the addition of one new half deck span of 45 ft. at the north end. The 3 spans first mentioned are to be removed from the Toronto-Sudbury line. The weight of steel in the renewal structure will be approximately 220 tons, and the capacity will be equal to Cooper's E-46 loading. Two piers are to be built midstream, and the substructure of the present bridge is to be repaired.

Bancroft to Alice Tp.—A press report states that a project is under consideration for building of a line from Bancroft, Ont., to the main line in Alice Tp., Ont., 40 miles. Bancroft is the junction of the old Irondale, Bancroft and Ottawa Ry., with the old Central Ontario Ry., both of which were acquired by the Canadian Northern Ry., and the building of such a line would open up a considerable territory now without railway connection. The original project of the I.B. and O.R., included a line from Ottawa, to Georgian Bay, but the only section built extended from a junction with the G.T.R., Lindsay-Haliburton branch, just north of Kinmount, to Bancroft, 54 miles. The iron ore mining in he district failed to come up to expectations, and as the lumbering moved farther away, the railway business gradually fell off.

Parry Sound Subway and Bridge—The Board of Railway Commissioners has authorized the company to rebuild the subway carrying its tracks under Bowes St., and the bridge carrying the railway over William St., Parry Sound, Ont.

Grant to Long Lake, Ont.—A press report states that a plan is under consideration for building a line from Long Lake, Ont., on the Canadian Northern Ry. to Grant, Ont., on the Transcontinental Ry. This matter has been discussed in the press on several occasions within the past few years.

Mulvihill Station—The Board of Railway Commissioners has ordered the building of a station at Mulvihill, Man., mile 99, Oak Point and Gypsumville Branch.

Morris Pipe Line—Tenders are under under consideration for the installation of a 6-in. cast iron pipe line at Morris, Man.

Prince Albert to Paddock Wood—We are officially advised that it is not intended to proceed with any construction this year on the recently surveyed branch from Prince Albert to Paddock Wood, Sask. Surveys were made in September for this line, from Prince Albert northeasterly for about 40 miles.

Edmonton Station and Shops—An unconfirmed press report states that a new station building, costing approximately $1,000,000, will be built at Edmonton, Alta., that construction on the same will be started next spring and that the new building, which will be 5 stories high, will be located near the present station. The same report states that it is proposed to build large car shops, etc., at Edmonton, on which it is also expected to start work next spring.

Oliver-St. Paul de Metis Line—Track is reported to have been laid on 100 miles of the Oliver to St. Paul de Metis, Alta., line; tracklaying is expected to be gone on with on a further 20 miles. E. G. Richardson, engineer in charge of construction, is reported to have stated in Edmonton, Nov. 3, that a further 22 miles of grading was expected to be ready for tracklaying by Nov. 15.

Vancouver Station—With the inauguration of a daily transcontinental service over the Canadian National Rys., Nov. 1, the new Canadian Northern Pacific Ry. station at the False Creek terminals, Vancouver, was officially opened. The mayor of Vancouver, with a delegation of citizens, received the company's officials who arrived on the train and formally declared the station open. Following the ceremony, the city aldermen, railway officials, etc., were entertained at a dinner by the C.N.R., at which congratulatory speeches were made. A description of the building was given in Canadian Railway and Marine World in July, 1916, and a more detailed description was given Sept., 1916. A description of the train shed and platforms was given in Feb., 1918. (Nov., pg. 590).

Copenhagen, Denmark, Tramway Fares have been raised 50%.

Light Railways Projected for Northern Ontario.

A Cobalt, Ont., press report of Nov. 6, stated that a plan was under consideration to provide light narrow gauge railways for the outlying Northern Ontario mining districts. It was stated that temporary arrangements had been made with, presumably, the late Ontario Government by J. W. Solloway of Toronto, to build a light railway similar to those used at the front in France for the transportation of munitions, and that a charter would be applied for, for the construction of such a line between Elk Lake and Gowganda, Ont. Elk Lake is the terminus of a Timiskaming and Northern Ontario Ry. branch from Earlton Jct. The Gowganda mining district has been asking for railway connection for a number of years.

Another press report states that the principal mine in the neighborhood of the projected Elk Lake-Gowganda, is the Millar Lake-O'Brien, and that the promoters of the line are prepared to provide lines into West Shining Tree and Matachewan. A further report states that a line to the Kirkland district is also projected.

Canadian Light Ry. Construction Co. Ltd., has been incorporated under the Ontario Companies' Act with a capital of $500,000 and offices in Toronto, to carry on the business of contractors and builders, and to build, equip and construct a light railway or light railways in the unorganized districts of Ontario.

Toronto Union Station and Esplanade Viaduct Plans.

E. W. Beatty, K.C., President, C.P.R., while in Toronto, Nov. 20, is reported to have said that he did not think there was any likelihood of construction on the esplanade viaduct being proceeded with for some time, owing to the high cost of labor and materials.

As to the new union station, he is said to have expressed the opinion that it would not be ready for occupancy until May, 1920. There were questions in connection with both the union station and the viaduct which had assumed new phases, now that the G.T.R. is being acquired by the Dominion.

He is also reported to have said that there is no truth in the report that the C.P.R. own the "Mystery Block" on Yonge St., on which press reports recently credited the C.P.R. with planning to erect a new station and hotel.

Transportation Statistics—The collection compilation, etc., of railway, canal, express, telegraph, and telephone statistics carried on heretofore in the Railways and Canals Department by the Comptroller of Statistics, J. L. Payne, is about to be transferred to the Dominion Bureau of Statistics, Trade and Commerce Department, where it will be carried on under the direction of the Dominion Statistician and Controller of Census, R. H. Coats, B.A.

Quebec & Saguenay Ry. Operation—The Minister of Justice stated in the House of Commons, Nov. 10, in answer to questions, that the government did not intend to discontinue train service between Quebec and Murray Bay, and that the question of operating trains between those points only two or three times a week, was then under the management's consideration.

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.

28,883. Oct. 9.—Dismissing Canadian Association of Ice Cream Manufacturers' application for reduction in express classification of ice cream from first to second class.

28,884. Oct. 10.—Amending order 28,789, Sept. 16, re building of C.P.R. Russell Northerly Branch across highways between mileage 0 and 12.34, Man.

28,885. Oct. 8.—Extending to June 30, 1920, time within which Grand Trunk Pacific Ry. may build station, platform, stock pen and spur as required by order 21,937, May 29, 1914, between Tofield and Deville, Sask.

28,886. Oct. 9.—Relieving G.T.R. from providing further protection at Russell, or Long crossing, near Carlsbad Springs, Ont.

28,887. Oct. 9.—Ordering Grand Trunk Pacific Ry. to appoint caretaker at Lorlie, Sask., to see that station is kept clean, heated and lighted for accommodation of passengers.

28,888. Oct. 10.—Relieving G.T.R. from providing further protection at first crossing west of Cupar, Sask.

28,889. Oct. 8.—Authorizing C.P.R. to build its Leader Southeasterly Branch across highways between mileage 0 and 31.37, Sask.

28,890. Oct. 11.—Approving location of C.P.R. station at Harding, Man.

28,891. Oct. 10.—Ordering G.T.R. to restore its passenger train known as the Scoot between Richmond and Sherbrooke, Que., from Oct. 20, to May 1, 1920.

28,892 Oct. 10.—Ordering C.P.R. to refrain from leaving cars standing on north siding on either side of Renfrew St., Renfrew, Ont., nearer than 100 ft. from the street line.

28,893. Oct. 14.—Authorizing Canadian National Rys., and Montreal Terminal Ry. to operate over crossing at Longue Pointe, near Montreal, without first stopping.

28,894. Oct. 14.—Suspending, pending hearing complaint of Dominion Canners, Ltd., Canadian Canners, Ltd., and others, C.P.R., G.T.R., Canadian National Rys., Michigan Central Rd., Toronto, Hamilton & Buffalo Ry., and Pere Marquette Rd. supplements of tariffs cancelling special commodity rates on canned goods in carloads.

28,895. Oct. 8.—Authorizing C.P.R. to make changes in spurs serving Ogilvie Flour Mills Co., Winnipeg, and to build new spurs, one of them across Higgins Ave., and Winnipeg Electric Ry.

28,896, 28,897. Oct. 11.—Authorizing G.T.R. to operate, jointly with C.P.R., over siding and spurs built by G.T.R. for E. W. Gillett Co., and Canada Metal Co., Toronto.

28,898, 28,899. Oct. 11.—Approving Bell Telephone Co.'s agreements with Wellesley Tp., operating in Waterloo and Perth Counties, Ont., Oct. 1; and Head Lake Telephone Co., operating in Victoria County, Ont., Sept. 23.

28,900. Oct. 14.—Authorizing G.T.R. to build spur for London Shipping Containers, Ltd., London, Ont.

28,901. Oct. 14.—Rescinding order 20,901, Nov. 25, 1913, re G.T.R. spur for Harris Abattoir Co., Hamilton, Ont.

28,902. Oct. 14.—Relieving Canadian Northern Saskatchewan Ry. and Grand Trunk Pacific Ry. from maintaining signalman on Sundays to operate interlocking plant at Yorkton, Sask.

28,903. Oct. 10.—Ordering Edmonton, Dunvegan & British Columbia Ry., to build a 2 car loading platform at Fowler, Alta.

28,904. Oct. 14.—Dismissing complaint of Canadian manufacturers against general order 162 and the relieving of telegraph companies from responsibility for failure to transmit messages.

28,905. Oct. 15.—Authorizing Grand Trunk Pacific Branch Lines Co. to build spur for Northern Saskatchewan Co-operative Stock Yards Co. at mileage 111.25, Prince Albert Branch, Sask.

28,906. Oct. 11.—Disallowing G.T.R. Supplement 16 to tariff C.R.C. no. E-4024, and cancelling of item 195 in C.P.R. Supplement 14 to tariff C.R.C. no. E-3551, increasing rates on agricultural lime or stone dust from Kirkfield, Ont.

28,907. Oct. 14.—Authorizing Toronto, Hamilton & Buffalo Ry. to divert and join into one crossing, at grade, over its tracks, portions of certain highways in North Grimsby Tp., Ont.

28,908. Oct. 15.—Authorizing C.P.R. to divert road allowance in s.e. ¼, Sec. 29, and n.w. ¼ Sec. 21, Tp. 20, Range 28, west 3rd meridian, and to build its Leader Southeasterly Branch, at grade, across road allowance at mileage 19.38, and to close diverted portion within limits of its right of way.

28,909. Oct. 16.—Authorizing Canadian National Rys. to cross Pembina Highway at Portage Jct., Winnipeg.

28,910. Oct. 14.—Authorizing G.T.R. to take certain lands in Pointe Claire Parish, Jacques Cartier County, Que., for changing location of Y to eliminate a facing point switch in its eastbound main track.

28,911. Oct. 16.—Relieving G.T.R. from providing further protection at Mooney's crossing, North Fredericksburg, near Napanee, Ont.

28,912. Oct. 15.—Ordering G.T.R. to erect whistle posts 80 rods from all flag stations where its tracks parallel C.P.R., between Montreal and Vaudreuil, Que.

28,913. Oct. 17.—Ordering C.P.R. to build a station at Dafoe, Sask.

28,914. Oct. 16.—Amending order 28,876, Oct. 8, re rebuilding of Canadian National Rys. bridge over Bolger Creek, Ont.

28,915. Oct. 18.—Approving Chatham, Wallaceburg and Lake Erie Ry. standard freight tariff C.R.C. 576, effective Nov. 8.

28,916. Oct. 18—Relieving C.P.R. from providing further protection at crossing six poles south of mileage 43, MacLeod Subdivision, Alta.

28,917. Oct. 18.—Relieving Canadian National Rys. from providing further protection at crossing at Johnston St., Minto, Man.

28,918. Oct. 22.—Authorizing C.P.R. to build spur for Crane Ltd., Calgary, Alta.

28,919. Oct. 16.—Dismissing application of City of Kingston, Kingston Board of Trade, Town of Brockville and others for order directing G.T.R. to restore trains 31 and 32, between Brockville and Belleville, Ont., discontinued Sept. 28.

28,920. Oct. 20.—Approving agreement Oct. 6, between Bell Telephone Co., and Wallacetown & Lake Shore Telephone Association, operating in Elgin County, Ont.

28,921. Oct. 20.—Amending order 28,891, Oct. 10, re G.T.R. passenger service between Richmond and Sherbrooke, Que., by substituting Coaticook for Sherbrooke in the fourth line of operative part of order.

28,922. Oct. 20.—Authorizing Grand Trunk Pacific Ry. to build spur for U.G.G. Saw Mills at mileage 1,222, Cariboo District, B.C.

28,923. Oct. 20.—Authorizing G.T.R. to rebuild overhead bridge carrying Mechanic St. over its track at Drumbo, Ont.

28,924. Oct. 21.—Ordering Canadian National Rys. to appoint caretaker at Pathlow, Sask., to see that station is kept clean, heated and lighted for passengers, and to care for l.c.l. freight and express shipments.

28,925. Oct. 23.—Relieving Canadian National Rys. and C.P.R. from maintaining signalman on Sundays to operate interlocking plant at Brookdale, Man.

28,926. Oct. 20.—Amending order 28,756, Sept. 10, re C.P.R. spur for Crescent Collieries, Bienfait, Sask., by striking out the word Manitoba, wherever it occurs in the order, and substituting therefor the word Saskatchewan.

28,927. Oct. 25.—Authorizing C.P.R. to build spur for Lachance Ltd., Quebec, Que.

28,928 Oct. 25.—Relieving G.T.R. from providing further protection at first crossing north of Newton station, Ont.

28,929. Oct. 21.—Amending order 28,917, Oct. 18, re speed limitation over crossing at Minto, Man.

28,930. Oct. 25.—Extending to Dec. 31, time within which half interlocker at crossing of Canadian National Rys., by Fort William Municipal Ry., at intersection of Victoria Ave., and Vickers St., Fort William, Ont., may be installed.

28,931. Oct. 22.—Authorizing Canadian National Rys. to rebuild bridge over Rouge River at mile 3.3, china clay spur, Montfort Subdivision Arundell Tp., Que.

28,932. Oct. 23.—Rescinding order 28,129, Feb. 28, re C.P.R. operating trains over crossing of Bull St., Woodstock, N.B., at 5 miles an hour.

28,933. Oct. 23.—Authorizing G.T.R. to discontinue sale of tickets at Hawtrey station, Ont., and to employ caretaker to see that station is kept clean, heated and lighted for passengers.

28,934. Oct. 23.—Extending to Dec. 15 time within which Lake Erie & Northern Ry. shall install interlocking plant at crossing of G.T.R. in Brantford, Ont.

28,935. Oct. 23.—Authorizing C.P.R. to build spur for St. Maurice Lumber Co., Three Rivers, Que.

28,936. Oct. 24.—Relieving G.T.R. from providing further protection at first crossing north of station at Whites, Que.

28,937. Oct. 22.—Authorizing C.P.R. to take certain lands, of H. Carriere, in St. Sauveur Parish, Terrebonne County, Que.

28,938 Oct. 22.—Authorizing Grand Trunk Pacific Ry. to build spur for U.G.G Sawmills Ltd., at mile 1,218.5, Cariboo Ditsrict, B.C.

28,939. Oct. 23.—Amending order 16,701, June 4, 1912, authorizing City of Edmonton, Alta., to erect poles and wires to transmit power across Grand Trunk Pacific Ry., along 21st St., and intersection with Short and Nelson Aves.

28,940. Oct. 23.—Authorizing C.P.R. to build spurs for Northwest Milling Co., Strathcona, Alta.

28,941. Oct. 27.—Authorizing C.P.R. to divert road allowance in n.w. ¼ and s.w. ¼ Secs. 32, Tp. 23, Range 15, west 3rd meridian, Man.

28,942. Oct. 27.—Authorizing C.P.R. to build spur for McArthur Irwin, Ltd., Outremont, Que.

28,943. Oct. 22.—Approving revised location of C.P.R., Langdon North Branch, from Sec. 19, Tp. 29, Range 25, at mile 38.88 to Sec. 8, Tp. 29, Range 20, west 4th meridian, at mileage 76.24, Alta.

28,944. Oct. 23.—Authorizing Town of Dorval, Que., to make highway crossing over G.T.R. at Cote de Liesse Road.

28,945. Oct. 27.—Authorizing Alberta Public Works Department to make highway crossing over Canadian National Rys. in Michel Calahoe Indian Reserve 132, Alta.

28,946. Oct. 28.—Approving standard maximum freight mileage tariff C.R.C. 146, standard passenger tariff of maximum mileage tolls on interurban lines C.R.C. 9, standard tariff of maximum tolls on street car lines (not including interurban lines) C.R.C. 8, express tariff C.R.C. Ex. 1, and Supplement 1, thereto, of British Columbia Electric Ry. and Vancouver Power Co.

28,947. Oct. 27.—Authorizing Canadian National Rys. to rebuild subway carrying tracks across Bowes St., Parry Sound, Ont.

28,948. Oct. 27.—Approving location of C.P.R. Rosetown Southeasterly Branch, from Sec. 27, Tp. 27, Range 16, at mileage 20.56 to Sec. 31, Tp. 23, Range 15, west 3rd meridian at mileage 45.76, and authorizing C.P.R. to cross 16 highways on said location.

28,949. Oct. 29.—Ordering Grand Trunk Pacific Ry. to build station at Lorlie, Sask.

28,950. Oct. 27.—Authorizing Saskatchewan Government to make highway crossing over Canadian National Rys. between n.w. and s.w. ¼ Sec. 31, Tp. 42, Range 20, west 3rd meridian.

28,951. Oct. 27.—Ordering Canadian National Rys. to build station at Mulvihill, Man.

28,952. Oct. 27.—Authorizing G.T.R. to build spur for Canada Foundries & Forgings Ltd., Welland, Ont.

28,953. Oct. 27.—Rescinding order 28,453, June 18, relieving Algoma Eastern Ry. and Canadian Copper Co. from maintaining signalman at crossing at Copper Cliff Jct., Ont.

28,954. Oct. 29.—Dismissing complaint of R. Patterson, Stamford, Ont., re G.T.R. charge of 50c a ton on sand and gravel from Stamford to Niagara Falls, Ont.

28,955. Nov. 4.—Authorizing G.T.R. to take certain lands at Gravenhurst, Ont., for additional tracks and terminal facilities.

28,956. Nov. 4.—Relieving Canadian National Rys. from providing further protection at crossing of Main St., Newburgh, Ont.

28,957. Nov. 3.—Extending to Dev. 15, time within which Lake Erie & Northern Ry. may operate over crossing at Brantford, Ont., pending installation of interlocking plant.

28,958. Nov. 4.—Authorizing C.P.R. to build siding for J. H. Gignac Ltd., Quebec, Que.

28,959. Nov. 3.—Authorizing G.T.R. to build spur for Interprovincial Brick Co. of Canada on Lot. 29, Con. 5, Chinguacousy Tp., Ont.

28,960. Nov. 4.—Authorizing Canadian National Rys. to divert road on Lot 23, Con. 9, Marlborough Tp., Ont., at mile 223.9, Rideau Subdivision.

28,961. Nov. 4.—Authorizing C.P.R. to extend Provincial Reformatory spur to coal dump at mile 29.05, Hamilton-Goderich Subdivision in Lot 4, Con. 2, Guelph Tp., Ont.

28,962. Nov. 3.—Authorizing G.T.R. to build spur for Farmer's Dairy Co., Napanee, Ont.

28,963. Nov. 3.—Authorizing Saskatchewan Government to make highway crossing over Canadian National Rys. in n.e. ¼ Sec. 32, Tp. 37, Range 24, west 2nd meridian, Sask.

28,964. Nov. 3.—Authorizing Canadian National Rys. to rebuild bridge over Beckets Creek, Cumberland Tp., Ont., at mile 94.25 from Montreal.

28,965. Nov. 3.—Approving location of C.P.R. station at Marchwell, Sask.

28,966. Nov. 3.—Authorizing G.T.R. to build spur for Chesley Furniture Co, Elderslie Tp., Ont.

28,967. Nov. 3.—Approving Dominion Atlantic Ry. standard passenger tariff of sleeping car tolls C.R.C. no. S-4.

28,963. Nov. 4.—Extending to July 31, 1920, time within which Canadian National Rys. may install interlocking plant at junction with C.P.R., at mile 18.4, Kingston Subdivision, near Harrowsmith station, Ont.

28,969. Nov. 4.—Authorizing Canadian National Rys. to rebuild bridge over farm road in Chatham Tp., Que., at mile 45.30 from Montreal.

28,970. Nov. 5.—Approving plans of superstructure of subway to be erected at St. Paul St., Brantford, Ont.

28,971. Nov. 4.—Relieving C.P.R. from providing further protection at crossing of road near High Bluff station, Man.

28,972. Nov. 4.—Approving agreement, Oct. 8, between Bell Telephone Co. and Russell Rural Telephone Co., operating in Russell and Carleton Counties, Ont.

28,973. Nov. 4.—Authorizing Quebec and Lake St. John Ry. (C.N.R.) to rebuild bridge over the Koospeganishe River, Caron Tp., Que., at mileage 186.2.

28,974. Nov. 4.—Authorizing Canadian National Rys. to rebuild bridge over William St., Parry Sound, Ont.

28,975. Oct. 29.—Authorizing Oshawa Ry. to build 9 sidings for General Motors of Canada, Ltd., Oshawa, Ont.

28,976. Nov. 5.—Approving stress sheets showing steel girders of bridge over west branch of Yamachiche River at mile 98.88 from Quebec on the Canadian Northern Quebec Ry.

28,977. Oct. 30.—Ordering Vancouver, Victoria & Eastern Ry. & Nav. Co. (G.N.R.) to widen outlet of Thynne Lake, and make it at least 2 ft. deeper, beginning at station 1,603 + 50, and running out at bridge 528, the work to be done at low water.

28,978. Nov. 7.—Authorizing C.P.R. to build spur for Brett Manufacturing Co., Winnipeg, Man.

28,979. Nov. 7.—Authorizing Canadian National Rys. to build spur to ballast pit in Con. 1, Cramahe Tp., Ont.

28,980. Nov. 8.—Relieving G.T.R. from providing further protection at crossing 3 miles west of Chatham, Ont.

28,981. Nov. 7.—Authorizing G.T.R. to build spur for Canadian Vegetable Parchment Co., Grantham Tp., Ont.

28,982. Nov. 7.—Dismissing City of Toronto's application for order apportioning cost of alterations to Consumers Gas Co.'s mains, Toronto, necessitated by subways at 10 points.

The Shortage of Railway Cars Discussed in the House of Commons.

The Minister of Railways, Hon. J. D. Reid, said in the House of Commons, Nov. 8: "For some time I have been receiving telegrams from the west complaining about the shortage of cars for the shipment of hay, coal and wheat. That has been going on not only for the last few weeks, but for a year. The reason for the shortage is this: In the past there was generally a surplus of United States cars in Canada, but the U.S. Government since it has had charge of the situation, has been keeping our cars in the U.S., and there have been in the neighborhood of 20,000 more Canadian box cars in the U.S. than U.S. cars in Canada. Yesterday the way in which the car situation stood was this: There were located in the U.S., 18,030 Canadian livestock cars and 43,661 Canadian box cars, to offset which we have only 158 livestock cars and 21,240 box cars of U.S. railroads in Canada. In other words, yesterday there were 22,000 Canadian box cars in the U.S. over and above the number of U.S. cars in Canada. I have been taking the matter up by wire in the strongest possible terms with W. D. Hines, Director General U.S. Railroad Administration. The railways themselves have been doing everything possible to get those cars over here, but we have not yet been successful in reducing that great difference. We are still continuing our efforts, and I will read a telegram that I received yesterday that will show exactly the position I have taken as regards the shortage of empty cars in the west. I took the matter up with the Canadian Railway War Board on account of the complaints from the west about not getting cars for livestock, and this is the reply I received:

"Supplementing telegrams and telephone conversation yesterday re Alberta livestock shippers complaints, further report just received from C.P.R. reads as follows: 'There is undoubtedly a shortage of stock cars on the C.P.R. in Alberta and the cause of it is perfectly well known to Messrs. Kenny and McDaniels and to the Calgary Livestock Exchange, a great proportion of the stock market has been going to Chicago via Portland and U.S. connections are not in position to supply any cars for it. There are 1,500 C.P.R. stock cars south of the line and connections have been unable to make prompt return on account of delay in cleaning and disinfecting after unloading which delay they assert is due to shortage of labor and to the cold weather. The feed situation in Alberta was well known to everybody associated with the stock business, but they waited until the advent of winter to throw thousands of head of cattle on the railway companies for transportation. In addition to the movement via Portland there is a heavy movement to St. Paul and Chicago out of Union stock yards at Winnipeg. Other Canadian railways are supplying cars for this movement and U.S. connections state they are not in position to send up cars. The result is that the whole burden of the traffic is thrown on C.P.R. Our wire yesterday gave information showing considerable improvement in return of C.P.R. stock cars from Soo line. This board has been in touch with U.S. railway authorities continually about accelerating return of cars which efforts now appear to be bearing fruit. Stock cars have been and are being rushed from eastern Canada as fast as available. In absence of stock cars, box cars have been placed at disposal of Alberta shippers in ratio of 3 box for 2 stock when and where they would use them, and, in fact, investigation shows that railways have been leaving no stone unturned in their efforts to cope with extraordinary situation brought about by conditions already described. Board is informed that Kenny and McDaniels have telegraphed you withdrawing their complaint.'"

"I think it is an outrage and a disgrace for the U.S. railways to keep 22,000 Canadian cars over there and to use them, when they know that we in Canada are suffering for lack of those cars. I only want members and the people of this country to know that the Railway Department, the Canadian Pacific, the Grand Trunk and the Canadian National Railways have for a long time been taking every means possible to get those cars back. But W. D. Hines, who is in charge of this, seems utterly to ignore all appeals we make in the interest of humanity and doing justice to our country to give to us the cars to which we are entitled.

J. E. Armstrong, M.P. for Lambton, Ont., having asked whether it would not be possible for the Minister of Railways to increase the per diem rate charged for cars, to double, or treble, if necessary, the Minister replied:

"The international rates are fixed. Supposing you did that, how are you going to collect the rates? The cars are there, and if you start endeavoring to force the U.S. Government in the way the member states, or in some other way of that kind, they will put some restrictions on our traffic going into the U.S., and the result might be disastrous to international shipping. I am satisfied that if those means, or any other that might be suggested, could be adopted, the Canadian Pacific, Grand Trunk and the Canadian National Railways would take such means to get the cars."

On Nov. 10 the Miniser brought the matter up again in the Commons and said: "With further reference to the shortage of cars on Canadian railways, I had the Canadian Railway War Board meet on Nov. 8 and take the matter up. They have wired me as follows:

"'Referring further your telegram yesterday. Several reports which have reached you with respect to car shortage as referred to therein dealt with at meeting this board today. As to coal situaion Canadian Pacific state full supply of cars at all mines on its line. Canadian National Rys. had excess supply of cars at mines they serve until Oct. 12, when there was slight shortage which existed for few days only. Since that time no shortage reported. Average daily shipments commercial coal from Canadian National mines since Nov. 1, 7,000 tons and at same rate of shipment for balance of month, total shipments during November will be double those of corresponding month last year. Would point out that despite warnings issued repeatedly by government and this board, coal shipments early part of season were greatly under amount shipped last year, with that total shipments from April 1 last to present are only 50% of quantity shipped during same period last year. This apparently due to failure of dealers to place orders and to short hours worked at mines account labor troubles. Total tonnage commercial coal shipped from western mines April 1 to Aug. 31, 1919, was 332,977 tons, compared with 1,703,792 tons same period 1918. Since Sept. 1 this year, shipments total 544,495 tons, as against 534,200 tons same period last year. As to stock cars situation, improved delivery of empty cars from U.S. roads within past few days has greatly improved condition, and with continued prompt return of Canadian equipment sent to St. Paul and Chicago railways will be enabled to handle heavy live stock traffic. Administrative sub-committee of this board at Winnipeg has been directed to confer at once with Mr. Stewart, of Wheat Board, with view to determining what is actual reason for movement of wheat being less than desired by Wheat Board and to take what action may be necessary, in so far as railways are responsible to meet situation. Regret board has no information available as to stocks of commercial coal stored in various parts of country, but understand Fuel Controller assembling this data with respect to movement coal from Canadian mines as mentioned in later portion your message. Assume this has particular reference to movement from Nova Scotia to Ontario. In absence of definite information as to what additional requirements may be placed on railways in this connection either as to territory or volume to be handled, it is difficulty to give specific report. Railways are prepared however to move coal from Maritime Provinces to interior to capacity of equipment made available.

"I might say, in reference to the last part of that telegram, that I asked the Canadian Railway War Board what the situation would be in case we had to bring coal from the maritime or the western provinces to the interior provinces of Ontario and Quebec, and that is why they mention the question of bringing coal from Nova Scotia or the west in case there was a shortage in the interior provinces."

H. M. SHAW, M.P. for Macleod, Alta.: "Has the minister had any more complaints regarding the Canadian National Rys. in the west refusing to give cars to parties wishing to ship hay to Canadian Pacific points, and if so, what is being done to remedy the situation?"

HON. J. D. REID: "I have not received any more complaints; but when the member brought this matter to my attention, I sent telegrams to the Canadian National Rys. and the Canadian Railway War Board. I shall likely receive replies during the day, and I will at once communicate them to the member."

Canadian Pacific Railway Construction, Betterments, Etc.

St. John, N.B., Baggage Shed—A press report states that it is proposed to build a baggage shed at West St. John, on the site of the old cattle sheds leased from the city. It is stated that the plans provide for the erection of a one story building, 475 x 60 ft., on a pile foundation, and that there will be a platform 12 ft. wide. along either side of the building for its entire length, so that 2 trains of 8 cars each can be accommodated at the same time. The contract is expected to be let at an early date. Matters in connection with the building of the shed came up at a meeting of the St. John City Council, Oct. 26, in connection with some other matters affecting the C.P.R. and were referred to Commissioner Bullock, the City Solicitor and the City Engineer with power to act.

Interprovincial and James Bay Ry.—An unconfirmed press report states that the company has under consideration the construction of this projected railway from Kipawa, Que., the terminus of a branch line from Mattawa, Ont., to the head of Lake Timiskaming, 65 miles.

Toronto—A Toronto daily paper stated recently that the C.P.R. was the purchaser of "the 'Mystery Block,'" from Yonge St., east and south of College St., and that it would build a large passenger station and hotel at a cost of $3,000,000 or more, and connect them by a tunnel with its Yonge St. station, and that the carrying out of this project would mean the withdrawal of the company from the Union Station. Grant Hall, Vice President, is reported to have said that "the report was premature to say the least about it."

Another unconfirmed report credits the New York Central Rd., and the Michigan Central Rd., which with the C.P.R., own the Toronto, Hamilton and Buffalo Ry., with being interesed in a project for the erection of terminal facilities in Toronto.

Harriston Station—The building of a new station at Harriston, Ont., on the Toronto-Teeswater Branch, is being considered.

Manitoulin Island—A press report states that Grant Hall, Vice President, and other C.P.R. officials, visited Manitoulin Island, Ont., recently to investigate the needs and possibilities of railway construction here. At present, beyond the terminus of the Algoma Eastern Ry. at Current River, there is no railway on the island.

Emerson Branch—The company is building a large concrete bridge on its line at Emerson, Man. A work train of 31 cars carrying concrete blocks for the bridge and a gang of men had an accident at the Higgins Ave. subway, Winnipeg, Oct. 27, William McGill, the foreman, being killed.

Prairie Stations—The Board of Railway Commissioners has approved of locations for stations a Harding, Man., on the Brandon-Lenore line at Marchwell, Sask., 176 miles from Portage la Prairie, on the line to Saskatoon, and at Dafoe, Sask., between Binscarth and Saskatoon.

Rosetown Southeasterly Branch—The Board of Railway Commissioners has approved location plans for the branch from Rosetown, southeasterly, from mile 20.56, in Sec. 27, Tp. 27, Range 16 to mile 45.76 in Sec. 31, Tp. 23, Range 15, both west of he 3rd meridian, and has authorized the crossing of highways.

Langdon North Branch—The Board of Railway Commissioners has approved revised location of the branch from Langdon, Alta., northerly, from mile 38.88 in Sec. 19, Tp. 29, Range 25, to mile 76.24 in Sec. 8, Tp. 29, Range 20, both west of the 4th meridian.

Connaught Tunnel—We are officially advised that the Carter-Halls-Aldinger Co. has finished its contract for lining 750 ft. of the Connaught Tunnel, Selkirk Mountains, with concrete.

Matsqui Bridge—A press report states that the C.P.R. has refused to entertain a project for using its bridge at Matsqui, B.C., for general traffic purposes as proposed by local residents through the British Columbia Government.

British Ferry Slip—A 3 track car ferry slip has recently been completed on the south shore of Burrard Inlet, Vancouver, recently. The plans were approved by the Minister of Public Works in February. The trestlework leading to the apron is 210 x 45 ft., and is supported on creosoted piles. The apron is 70 ft. long, and is composed of 6 deck trusses, with top cord and wooden posts. The apron is raised or lowered as required by hydraulic power; the counter weights being of 1-3-5 reinforced concrete.

Vancouver Pier—We are advised that plans for the new pier proposed to be built at Vancouver, are not yet available. The only work actually decided upon at present is the dredging of overlaying material at the site, and the raising of the bottom by a fill to reduce the unsupported length of piling when the other work may be gone on with. (Nov., pg. 603).

C.P.R. Employes' Enlistments, Re-Employment, Etc.

Following are figures revised to Oct. 31, showing C.P.R., employes who enlisted in the army and army men who have been given employment by the company on their return from overseas:—

Total reported as enlisting	10,774
Dead	1,031
Wounded	2,025
Re-employed in the service	6,060
Other soldiers given employment	6,973
Total soldiers given employment to date	13,033

Demurrage Rates—The Director General of the United States Railroad Administration has announced that, owing to questions arising as to application and interpretation of demurrage, it was determined some time ago to recodify the rules, with a view to improve their form so far as possible and avoid any questions. As a result this work was undertaken by the American Railroad Association, in connection with committees of the National Industrial Traffic League, and the results were submitted to the Railroad Adminstration's Traffic and Public Service Divisions, and finally to the Interstate Commerce Commission, which has given its tentative approval, subject to its right and duty to enquire into the legality or reasonableness of any rule or rules which may be subject of any complaint.

The Public Works Department, Ottawa, has moved its offices from the western departmental block to the new Hunter building, O'Connor St.

Quebec and Saguenay Railway Purchase and Operation.

The Minister of Railways gave the House of Commons the following information recently about the Quebec and Saguenay Ry., in reply to a series of questions: The Dominion Government has purchased the railway for $3,489,313.53; the first instalment, $697,862.70, was paid Feb. 27, and the balance, $2,791,450.83, was paid April 12. On Sept. 24, an order in council was passed, placing the railway under the Canadian National Rys. directors for operation.

The construction of the line has been completed under the supervision of Gordon Grant, C.E., of the Railways Department, who is engaged in transferring it to the Canadian National Rys. board. The line has heretofore been operated by the contractors, Hugh Doheny & Co. It is completed for operation, with the exception of some minor items, such as telegraph instruments, train order boards, road crossing signals, etc. No decision had then been reached upon the question of continuing the line from its present terminus near Murray Bay, north to Ha Ha Bay, and it is not the government's intention to build a branch from Baie St. Paul to St. Urbain. Some claims for right of way, etc., have not been settled, as in some cases, the amount demanded by land owners is considered exorbitant, and they have been referred to the Exechequer Court.

The Minister of Railways informed the House of Commons, subsequently, that 33,899 passengers had been carried on the Q. & S.R. from Aug., 1918, to Oct. 1, 1919, and that the net earnings for that period were $12,941.66.

Land Subsidies to Railways.

Canadian Railway and Marine World for November contained, on pg. 583, the reply given by Sir James Lougheed in the Senate to questions asked by Senator Casgrain, Oct. 21, as to the amount paid in subsidies to the Grand Trunk, Canadian Pacific Ry., Canadian Northern Ry. and Grand Trunk Pacific Railways. Similar information was given in the House of Commons, Oct. 22, by the Minister of Railways in reply to questions asked by P. F. Casgrain, M.P.; the minister adding that the following additional information is necessary to make the answers complete: The G.T.R. received no land subsidy. The C.P.R. received land as follows, for main line, 18,206,986 acres, of which 18,198,592.81 have been patented; Lown's Branch, 1,408,704 acres, of which 1,406,932.02 have been patented; Pipestone extension, 3,200,320 acres, of which 3,104,436.18 have been patented. It also received as a subsidy for the Manitoba and Southeastern Ry., 680,320 acres, of which 679,746.03 have been patented. No land subsidy has been given to the Grand Trunk Pacific Ry.

Gold Coast Trade Opportunities—Lloyd Harris, Chairman Canadian Mission in London, Eng., is reported to have said, in speaking in Toronto recently, that the newly appointed governor of the Gold Coast has told him that that colony would build some large docks and about 1,000 miles of railway. If this information was properly followed up, Canada could obtain the greater part of the construction contract, to say nothing of the commercial goods required immediately there.

Electric Railway Department

The Montreal Tramways Co.'s Service at Cost Plan.

By J. E. Hutcheson, General Manager, Montreal Tramways Co.

In 1916 the Montreal Tramways Co. possessed on the Island of Montreal, under its name, or under the names of the companies absorbed by it, franchises in 30 municipalities; 27 of which were exclusive; 23 terminable between 1922 and 1961; and 7 interminable. The contract with the City of Montreal, as it existed in 1892, was of 30 years duration, expiring in 1922. The company's system was operating under 14 municipal councils, charged with looking after the proper execution of their respective contracts. The consideration for the use of the streets in the City of Montreal was an annual payment on the basis of a percentage on the gross earnings which applied only to the revenue from operation within the city limits as they existed in 1892. The tariffs, with free transfers, in each municipality were fixed for the duration of the respective contracts. In 1916 the average fare per revenue passenger on the entire system was 4.12c, and for total passengers 3.04c.

From time to time, during several years prior to 1917, the city requested the company to make extensions of tracks in municipalities which had been annexed. The company quite properly replied that it was fulfilling every obligation under the contracts with the said annexed municipalities, and while admitting that, in certain sections, there was need of further service being given, the revenue from extensions in outlying districts would not be sufficient, for years after construction, to pay operating expenses, and furthermore, that the city could only order extensions beyond the contract requirements in the areas annexed, by making a new contract covering such annexed areas.

This led to negotiations between the city and the company and several conferences were held, with the object of making a new contract to cover greater Montreal, which in 1917, had grown to such an extent as to take in several adjoining municipalities where the company was established. Because of accusations and recriminations amongst the members of the civic government, and because of the activities of the unfriendly press, no progress was made, until matters were taken to the Quebec Legislature in 1917, where an act was passed creating a commission of five prominent citizens of Montreal to prepare a contract that would safeguard the interest of the citizens and the company's shareholders; such contract to become law when signed by the members of the commission and by the company, and ratified by the legislature.

The commission, after visiting many cities in Canada and the United States, and after hearing the views of the various municipalities interested, and of public bodies, such as the Board of Trade and Chamber of Commerce, were unanimous in the opinion that a form of service at cost plan was the only equitable basis upon which a street railway franchise should be made. The company after two years operations under war conditions, and because of the uncertainty of the future, was agreeable to negotiate on this basis. The commission took several months to study the subject, during which time a valuation of the company's physical assets was made on a basis of reproduction cost, pre war prices. Finally a contract, for 35 years, covering the company's entire system, was prepared and signed by the officials of the company and the members of the commission on Jan. 28, 1918, and ratified by the legislature on Feb. 9, 1918.

The new contract provides for the appointment of a commission of control, to be known as the Montreal Tramways Commission, which shall consist of three members appointed by the Lieutenant-Governor in council, for 10 years. The commission has control of the service; may fix speed of cars, establish routes, stopping and transfer points; fix passenger density per car mile, stipulate type of rolling stock and of track construction, and must approve of all renewals and extraordinary maintenance expenditures; is empowered to examine and audit all receipts and disbursements. The necessary expense incurred by the commission in the performances of its duties shall be paid by the company and shall form part of the operating expenses.

J. E. Hutcheson,
General Manager, Montreal Tramways Co.

Any party in the case, the company, the city or any municipal corporation interested, may appeal to the Quebec Public Utilities Commission from any decision of the commission on any question of law or jurisdiction relative to this contract, as well as from any decision rendered by the commission relative to the provisions of the contract. Such appeal shall be final, except on questions of law.

Within 60 days following the appointment of its members, the Tramways Commission shall, if necessary, amend the tariffs in order to give full effect to the contract. They shall make said tariff uniform for the territory comprising the city as it exists at the date of the contract, as well as in five municipalities within the limits of the City of Montreal. Such territory shall be known as the uniform tariff territory. Outside of the uniform tariff territory the commission may fix different rates for the various municipalities as well for local traffic as for traffic from one municipality to another, or from a municipality to the uniform tariff territory and vice versa, providing that such tariffs, or any of them do not unjustly burden the rest of the system, and providing further that such municipalities may, with the consent of the commission, agree to pay the company any part of the excess of their respective services for the purpose of obtaining lower rates. The Tramways Commission may, from time to time as required, but in conformity with the provisions of the contract, amend the tariff established in virtue of the present article.

Guarantee Fund—It is provided that the company, by yearly instalments of not less than $10,000, shall provide out of its own resources a special fund of $500,000 to be known as the guarantee fund, which shall be used to meet all liabilities and other debts (except mortgage debts) incurred by the company, prior to the coming into force of this contract, through the operation of its system, and to provide for the payment in each year of any portion of excess expenditure as hereinafter defined, which shall be found by the commission to have been unnecessary for the payment of penalties imposed upon the company, and also to guarantee fulfilment by the company of all obligations assumed by it under the contract. Such fund, when created, shall be maintained by the company at all times at $500,000.

The Gross Revenues are to be disposed of for the following purposes and in the following order: 1, operating expenses and taxes, grand operating profit; 2, maintenance and renewals fund; 3, return on capital value; 4, city rentals; 5, contingent reserve fund; 6, division of surplus.

1. **Operating Allowance**—Within 60 days after the coming into force of the contract, the commission shall, for the first year of operation, allow the company, out of gross revenues, a sum for each revenue car mile, exclusive of car house and car yard miles, made by the cars equipped with motors, except cars operated to carry materials used in the construction and repair work of the company itself, and other sums for each revenue car mile, exclusive of car house and car yard miles, made by the cars equipped with motors, except cars operated to carry materials used in the construction and repair work of the company itself, and other sums for each revenue car mile for trailers and freight cars, always exclusive of car house and car yard miles. Such sums shall be known as the operating allowance, and shall be used for the payment of all operating expenses (exclusive of maintenance,

renewals and depreciation) and all taxes levied against the company on its property.

The company shall so increase the transportation service, under the direction of the commission, that the permissible average density of traffic per car mile, during the first year of operation under this contract, shall not be excessive. Within 60 days after the close of the first year of operation under the contract, and annually thereafter, the commission shall redetermine and fix for the ensuing year, the amount of operating allowance and permissible average car mile density, and in so doing, it shall base its action upon the actual and necessary operating expenses accrued during the preceding year, with such adjustments as may be foreseen to be necessary on account of modifications of service, changing costs, or any circumstances tending to increase or diminish the necessary expenses of operation.

2. **Operating Profit**—If at the end of any year the commission shall find that the company has kept within the operating allowance, or shall not have exceeded same by more than 2½% of its amount, subject to the conditions imposed as to density of traffic being in the judgment of the commission reasonably observed, then the commission shall permit the company to take out of gross revenues, as a charge prior to all other charges except operating expenses and taxes, as hereinabove defined, a sum to be known as the operating profit, which shall be equivalent to ⅛ of 1%, on the total average capital value for that year, and such operating profit shall belong to the company.

In case the company shall have spent more than the operating allowance, plus the above percentage of 2½% during any year, then the excess over such allowance and percentage shall be known as the excess expenditure, and shall be taken from gross revenues up to an amount not exceeding ⅛ of 1% on the average capital value for such year, and the operating profit shall be reduced accordingly. And if the excess expenditure shall exceed ⅛ of 1% on the average capital value, then the company shall receive no operating profit, but on the contrary shall pay out of the guarantee fund the amount by which such excess expenditure exceeds the ⅛ of 1%, providing the company shall, during any such year, and in anticipation of such excess expenditure or immediately upon the close of such year, submit to the commission a detailed statement and explanation thereof, and if the commission shall find not later than 60 days after the close of such year, that the excess expenditure or any part thereof, was necessary and unavoidable, in the rendition of service as required by the commission, then the commission shall permit the company to take out of gross revenues the additional amount required to cover such excess expenditures, or such part thereof, and shall also award the company the full amount of the operating profit, less any part of such excess expenditures which may be found to have been unnecessary. But if such unnecessary part shall exceed the amount of the said profit, the balance shall be paid by the company out of the guarantee fund. The company, in determining the operating allowance for the ensuing year, shall take into consideration the excess expenditure incurred during the preceding year and found to be necessary as above provided. Any portion of the operating allowance which shall not be expended or needed for the expenses of the year, shall at the close of the year, with the approval of the commission, be returned to gross revenues to be disposed of as hereinafter provided.

3. **Maintenance and Renewals Fund**—The entire plant and property of the company used and necessary to provide the public transportation service, shall at all times be maintained at the highest practicable standard of operating efficiency. For the purpose of maintenance, renewals, replacements and substitutions, made necessary by wear and tear, age, obsolescence, inadequacy, accident or other cause, a sum shall be set aside for each revenue car mile, exclusive of car house and car yard miles, made by cars equipped with motors, and other sums, for each revenue car mile made by trailers and by freight cars, always exclusive of car house and car yard miles. Such sum shall be known as the maintenance allowance, and shall be placed in a fund to be known as the maintenance and renewals fund. Any items of property contained in the valuation, or added to the system since June 30, 1917, which shall become worn out or which for any other reason shall at any time be deemed no longer useful as a part of such system, shall be disposed of under the commission's direction, subject to the provision of any trust deed, upon the most advantageous terms obtainable, and the proceeds thereof shall be paid into said maintenance and renewals fund Out of said maintenance and renewals fund shall be paid from time to time the actual and necessary expenses of maintenance and renewals, and of replacements and substitutions as hereinafter provided, and any monies not needed for such purposes during any year shall remain in said fund and be held in reserve until required for such purposes, or for investment in betterments, additions and extensions as hereinafter provided. Whenever any portion of the plant is replaced or other property substituted therefor, the cost of such replacement or substitution up to the full reproduction cost of the unit or article so replaced or substituted for as fixed by the said valuation, shall be paid out of the maintenance and renewals fund, and any cost in excess of said reproduction cost shall be paid out of monies supplied by the company as hereinafter provided, and the amount thereof shall be added to capital value. In case the cost of any such replacement or substitution shall be less than such reproduction cost or actual cost, as the case may be, or in case any item of property included in said valuation or thereafter added to the plant shall become worn out or be abandoned or sold as hereinabove mentioned, and shall not be replaced or substituted for, then the difference in cost or the full amount of the reproduction cost or the actual cost, or the proceeds of the sale, as the case may be, shall except to the extent that capital value shall be reduced by the proceeds of the sale of land and buildings as hereinabove provided, be appropriated out of the maintenance and renewals fund from time to time with the approval of the commission, for the making of betterments, additions to and extensions of plant, as may be required, and the cost of such betterments, additions and extensions paid from such appropriations shall not be added to capital value.

If at the end of the first year of operation under the contract or at the end of any subsequent year, it shall appear to the satisfaction of the commission that the maintenance allowance herein fixed is insufficient, such allowance shall be increased for the ensuing year and from year to year as may be deemed necessary. If at the close of any year, the commission shall find that the maintenance allowance is excessive or that the maintenance and renewals fund is greater than prudent management of the tramways system required, then the commission may reduce such allowance to any extent which it may see fit; provided that the maintenance allowance, shall never be so reduced as to cause a reduction in the maintenance and renewals fund, except temporarily, below $500,000, and in case such fund is, at the end of any year, to be reduced below such sum, then the commission shall forthwith increase the maintenance allowance in an amount sufficient to restore said fund to at least $500,000. Said fund shall be under the control of the commission, and no monies in it shall be paid out or loaned or invested except with the commission's approval. In case the monies in such fund are deposited in bank or invested, the interest thereon or the revenues derived therefrom shall be added and become a part of said fund.

In case the city shall purchase or acquire the company's property at the termination of this contract, the maintenance and renewals fund, as then existing, shall become the property of the city, and the amount of such fund shall not be added to the purchase price, and any monies then due by the company to said fund, shall be deducted from the purchase price.

4. **Return on Capital Value**—The capital value of the tramways system is fixed at $36,286,295, said sum including all physical assets added to the system up to Dec. 31, 1919. As its usual return upon capital value so fixed, the company shall receive in quarterly payments out of gross revenues a sum equal to 6% on such capital value. From time to time thereafter, as money is needed for betterments, additions to and extensions of plant, required by this contract or approved by the commission, such money, except to the extent that monies for such purposes are payable at the time from the maintenance and renewals fund, as hereinabove provided, shall be supplied by the company, and the amounts so supplied and actually expended for such purposes under the supervision of the commission shall, plus net interest expenses during construction, be added to capital value, and the company shall receive out of gross revenues an annual return of 6% on such amount. For such purposes, however, the company shall be obliged to borrow temporarily from monies in the maintenance and renewals fund, except from monies already in that fund for the same purposes, and from the contingent reserve fund and the tolls reduction fund, to the extent that in the judgment of the commission, the monies in all or any such fund, are available for loans, and upon monies so borrowed from such funds, the company shall pay into such funds, interest at the rate of 6% per annum. Monies so borrowed shall be reimbursed by the company, when and as ordered by the commission.

Upon all monies supplied for capital expenditures by the company, from other sources than the aforesaid funds, during the continuance of present world war, or within two years after its close, the company shall receive out of gross revenues an additional return of 1% per annum, provided such additional return shall not be paid for a period extending more than 5 years beyond the close of the war.

As the capital hereinabove established at $36,286,295 does not include any working capital, it is agreed that any working capital required shall, as and when ordered by the commission, be furnished by the company. Upon such working capital so furnished, the company shall receive a return at the rate of 6% per annum. Should the commission so order, the company shall be obliged, for the purpose of creating or maintaining such working capital, to borrow from any or all the different funds, created by the present contract, in the same manner, and to the same extent, and under the same conditions as hereinabove established, for monies borrowed by the company from said funds for betterment, additions to and extensions of plant.

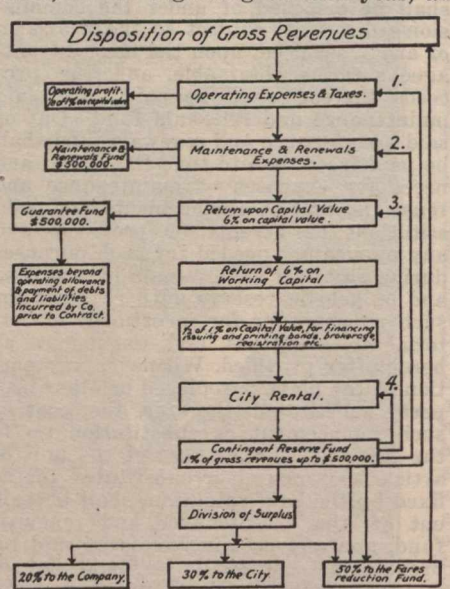
For the purpose of covering the expense to be incurred by the company, in procuring additional capital, the company shall, out of gross revenues, receive annually, $181,431.47, being equivalent to ½ of 1% of $36,286,295, provided said amount is expended solely for the following purposes, viz.: when issuing bonds or debenture stock for discounts, commissions, printing and engraving, exchange, legal and other expenses, incidental thereto; when issuing stock for printing, engraving, transfer and registration fees and listing on stock exchange. Any surplus over and above the said expenditure, and the interest or income therefrom, shall belong to the company, but shall be kept in a special account and shall not be distributed until the termination of this contract.

5. The city shall receive out of gross revenues, over and above all other amounts to which it may be entitled under this contract, or otherwise, $500,000 per annum, during the continuation of this contract, payable quarterly.

6. **Contingent Reserve Fund**—A sum equal to 1% of the gross revenues shall be paid annually into a contingent reserve fund, until such fund, with its accretions shall amount to $500,000, and thereafter no further payments shall be made to this fund, and the accretions thereof shall be paid into and become a part of the gross revenues; provided, that if said fund shall be diminished by any of the contingent payments hereinafter described, the accretions of the fund shall thereafter belong to it, and the payment of said 1% of the gross revenues into said fund, shall be resumed as soon as said percentage is available, and shall so continue until said fund is again restored to the full amount of $500,000. Said fund shall be used whenever it shall be necessary to make up any deficiency in the payments to be made under paragraphs 1 to 4 hereof, inclusive, in the order of priority herein established,—and allowance provided for in said paragraphs 1 to 4 inclusive, and in this paragraph shall be cumulative in the order herein established. Upon the termination of this contract, the company shall repay any monies borrowed from said fund, and not previously repaid, and the total amount then in said fund shall be distributed as follows:—to the city, 30%; to the company, 20%, and to the tolls reduction fund hereinafter established, 50%.

7. **Division of Surplus**—All the portion of the gross revenues remaining after the payment of the charges described in paragraphs 1 to 5 hereof, inclusive, shall constitute the divisible surplus, and shall at the end of each year be distributed as follows:—to the city, 30%; to the company, 20%, and to the tolls reduction fund, 50%. The portions distributed to the city and to the company shall belong to them and may be used or disposed of as they respectively see fit. The tolls reduction fund shall be held in trust for the patrons of the company for the reduction of tolls, and shall be administered by the commission as herein provided.

Fares Reduction—Whenever at the end of any year the amount in the tolls reduction fund shall exceed $1,000,000, the commission may, and whenever the amount in said fund shall exceed $3,-500,000, the commission shall reduce the fares or tolls of the tramways system. For the purpose of effecting said reduction, an amount not exceeding 25% of the total amount in such fund, at the close of the year preceding the year when such reduction is to be made, shall be taken out of the tolls reduction fund, and added to gross revenues, and the commission shall thereupon reduce the tolls to an extent that in the aggregate for the year, is at least equal to the amount so taken out of the tolls reduction fund, but does not exceed such amount, plus 75% of the amount which during the last preceding year flowed from gross revenues into the divisible surplus. Thereafter, at the beginning of each year, an



Principal Features of Montreal Tramways Co.'s Service at Cost Contract.

amount shall be taken from the tolls reduction fund and turned into gross revenues equal to the amount so taken from said fund at the time of the reduction of tolls; but when the total amount remaining in said tolls reduction fund at the end of any year is less than the amount taken annually from such fund for the increase of gross revenues as above provided, the appropriation from said fund to gross revenues shall for the time being be discontinued, but the tolls shall remain as previously reduced until it shall be necessary as hereinafter provided to increase them. If the tolls reduction fund, in spite of its depletion for such reduction in tolls shall again increase to an amount in excess of $2,500,-000, the tolls shall be further reduced in the same manner as before.

Insufficient Earnings—If in any year, the gross revenue shall be insufficient to provide for the payment of all sums payable under paragraphs 1 to 5, inclusive, and if the contingent reserve fund, is less than $300,000, the commission shall forthwith, from any monies in the tolls reduction fund, appropriate the amount necessary to bring the contingent reserve fund up to $500,000, all deficits in the payments provided for under paragraphs 1 to 4 hereof inclusive, being made up, or if sufficient monies therefor are not available in said tolls reduction fund, then the commission shall forthwith increase the tolls to the extent necessary to provide at least sufficient gross revenues to meet all the payments provided for under paragraphs 1 to 5 hereof, inclusive.

Fares Reduction Fund Property of the City—At the termination of this contract said tolls reduction fund shall be the property of the city, and any amounts borrowed by the company from said fund, and not previously repaid, shall forthwith, upon the demand of the city, be paid into said fund by the company, and in case of purchase by the city of the tramways system, any amounts then due from the company to said fund, shall be deducted from the purchase price.

Fares Fixed—In conformity with the provisions of the contract the Tramways Commission on June 24, 1918, set the rates of fare as follows:

(a) From midnight to 5 a.m., 15c.
(b) From 5 a.m. to midnight, 6c cash or 5 tickets for 25c.
(c) For school schildren from 5 to 16 years of age, on week days, and between 8 a.m. and 6 p.m., 7 tickets for 25c.
(d) Transfers shall be issued free to school children specified in clause (c), and to all passengers travelling on cars between 5 a.m. and 8 a.m. on week days only. At all other times a transfer shall be issued to any passenger paying his or her regular fare at a charge of 1c.

And the car mile allowance as follows:

Operating expenses and taxes, 22c per car mile for cars equipped with motors and 15c per car mile for trailers.

Maintenance and renewals, 7.9c per car mile for cars equipped with motors and 5.2c per car mile for trailers; for the first period of operation under the new contract.

This decision was appealed and the Quebec Public Utilities Commission rendered its decision on Sept. 29, 1918, fixing the rates as follows:

(a) Day tariff, 6c each or a ticket to be sold at the rate of 5 for 25c.
(b) School children, a ticket to be sold at the rate of 7 for 25c.
(c) Special day tariff of a ticket to be sold at the rate of 6 for 25c, to be good only between 6 and 8 a.m., and 5 and 7 p.m., on week days only.
(d) Night tariff, 15c cash.

Passengers paying fares shall be entitled to a transfer free of charge.

As the Quebec Public Utilities Commission did not fix any allowances per car mile for the expenses of operation as provided for in the contract, the Tramways Commission on Oct. 2, 1918, fixed these as follows:

Operating expenses and taxes, 20.1c per car mile for cars equipped with motors and 13.7c per car mile for trailers.

Maintenance and renewals, 7.33c per car mile for cars equipped with motors and 4.8c for trailers.

This gave an average allowance per car mile for:—

Operating expenses and taxes	19.93c
Maintenance and renewals	7.26c

The actual cost for the 12 months ended June 30, 1919, was:—

Operating expenses and taxes	21.74c
Maintenance and renewals	7.26c

As the company justified before the commission the over expenditures made during the year, the actual cost per car mile was allowed.

The company did not receive the full benefit of the increased rates of fare during the year, as they only became effective from Oct. 3, 1918. The average fare per revenue passenger increased from 4.1c to 4.8c after the new rates came into force.

For the year ended June 30, 1920, the Tramways Commission, by its decision, rendered Aug. 29, 1919, fixed the rates of fare as follows:

Uniform Tariff Territory.

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

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

(c) The existing outside night tariff and school children's tariff remain in force.

The per car mile allowance being as follows:

Operating expenses and taxes, 24.7c per car mile for cars equipped with motors and 17.4c per car mile for trailers.

Maintenance and renewals, 8.54c per car mile for cars equipped with motors and 7.05c per car mile for trailers.

The above decision was appealed against by the city as being too high, and by the company as being too low. Experts from Bion J. Arnold's Chicago office, engaged by the city, were heard and they supported the company's figures. Arguments by counsel for both sides closed on Oct. 2, and judgment will be rendered in the near future, which I feel sure will not be more unfavorable to the company than to confirm the Tramways Commission decision of Aug. 29.

The foregoing paper was read before the American Electric Railway Association, at its convention in Atlantic City recently. Subsequent to its preparation the Quebec Public Utilities Commission gave judgment, on Oct. 14, somewhat modifying the Tramways Commission's decision. This judgment was given in full in Canadian Railway and Marine World for November, pgs. 606 to 608. It modified the Tramways Commission's decision as follows:—

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

Probably the most important point in the Quebec Public Utilities Commission's decision is the abolition of the special day tariff (workmen's tickets), fixed by the Tramways Commission.

The Quebec Public Utilities Commission also revised the Tramway Commission's estimate of expenditure for the fiscal year, from $10,757,303.13, to $11,005,629.24, by adding $248,326.11 for maintenance and renewals, as explained in the judgment.

The Question of Dominion or Provincial Jurisdiction Over the British Columbia Electric Railway.

As stated in Canadian Railway and Marine World for November, the B.C. Public Utilities Commissioner, on Oct. 14, suspended his enquiry into the question of fares on the B.C.E.R., his attention having been drawn to the Dominion Railway Act, 1919, sec. 6 of which is as follows:—

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

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

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

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

On Nov. 7 the Minister of Justice introduced in the House of Commons, bill 41, an act to amend the Railway Act, 1919, as follows:

"1. Paragraph (c) of section 6 of the Railway Act, 1919, chapter 68 of the statutes of 1919, is hereby repealed."

The Minister of Justice, in introducing the bill, said:—"The whole purpose of this bill is to repeal subsec. (c) of sec. 6 of the Railway Act, as passed last session. That section provides, in effect, that any railway which is controlled or operated by a railway which is under the legislative authority of parliament, and any railway which controls or operates a railway which is under the legislative authority of parliament, shall be under the legislative authority of parliament, and all such railways are in general terms declared to be works for the general advantage of Canada. It has been found by experience that the clause overshot the mark at which it was aimed, and that it has produced the result that in certain instances tramways running in cities have come within the wide terms of that article, and have consequently been declared to be work for the general advantage of Canada, with the result that the fixing of their fares becomes a matter for the Board of Railway Commissioners and they are withdrawn from the control of provincial utilities boards and so forth, and in a large measure from municipal control. A special instance that brought attention to this was the case of the British Columbia Electric Ry. Co., which has been running a tramway in Vancouver and Victoria. The particular nature of the contract is not material, but the company does control and operate two very short roads, one of which was originally constructed by the C.P.R. and the other under a Dominion charter. That state of facts brings the tramways under the legislative authority of this parliament, and declares them to be works for the general advantage of Canada. There has been very strenuous objection on the part of the provincial authorities, as well as on the part of the municipal authorities of these cities. I think it is fairly obvious that it is undesirable that by an omnibus clause of that kind we should get tramways running in particular cities declared to be works for the general advantage of Canada and subject to the control of the Board of Railway Commissioners. Perhaps the wiser way, and probably even the only legal way, to make works which are purely local in their nature works for the general advantage of Canada, would be by specific declaration with regard to each work, although I do not want to commit myself absolutely on that proposition at the present time. This bill is to repeal that section, because it is considered that it was not contemplated to produce the results which it has produced, and which are open to serious objection. The section referred to was a new one in the revision of 1919. If my information is correct, what was principally in the mind of those who introduced it was the case of a regular steam railway in the Province of Quebec which had come to be operated in connection with the C.P.R., which it was considered highly desirable, and I think probably correctly so, to bring under the legislative authority of the Dominion and declared it to be a work for the general advantage of Canada. But, instead of proceeding by dealing with a particular railway, the method was taken of defining the whole class of railways as being for the general advantage of Canada, and subject to the legislative authority of Canada, with the result that in the net that was thrown out there were caught a good many fishes for which the fisherman was not looking at all."

The bill was then read a first time and was read a second time Nov. 8. On the motion to go into committee of the whole thereon, F. S. Cahill, M.P. for Pontiac, Ont., after calling attention to the discussion when the section proposed to be struck out, was originally passed, after a strong and persistent advocacy by labor interests, moved that the bill be sent to the railway committee for consideration of clauses suggested by the special railway committee.

The Minister of Justice agreed with much that Mr. Cahill had stated that the reason it was now proposed to repeal this section was that experience has shown that altogether too wide a provision was made when seeking to attain the particular end in view. A notable case that was brought up of the effect of the section as it stands was that the British Columbia Electric Ry., which is operating under lease two small lines of railway, one built by the C.P.R.—the Vancouver and Lulu Island Ry.—and the other built by the B.C.E.R., under the Dominion charter granted to the Vancouver, Fraser Valley and Southern Ry. By reason of the B.C.E.R. so operating these two lines, all the company's lines were withdrawn from British Columbia jurisdiction. This condition of affairs has given rise to very strenuous objection by the B.C. Government, and local authorities. It is also questionable whether it is, under the British North America Act, open to the Dominion Parliament, by general legislation of this kind, describing a class of works, to make every particular work come within the description of that class of work for the general advantage of Canada, without the slightest reference to whether as an actual matter of fact in each particular case it can at

all reasonably be suggested that that particular work is a work for the general advantage of Canada. The remedy for the state of affairs outlined by Mr. Cahill, which had been provided, did not confine itself to fitting the particular case, but operated to bring under Dominion jurisdiction a large class of works which it might safely be said, was not in contemplation at all at the time. The present condition called for a remedy.

The amendment was defeated, and the house then went into committee when H. B. Morphy, M.P. for North Perth, Ont., opposed the passing of the bill on the ground that while it was for the benefit of two local railways, it would wipe out of the statute a section which was inserted after a great deal of discussion, and he suggested that an amendment be inserted to the effect that the section should not apply to railways or tramways operated under a provincial charter, or otherwise of a local nature, not coming under the provisions of the Railway Act.

G. B. Nicholson, M.P. for Algoma East, Ont., also spoke in opposition to the bill, whereupon the Minister of Justice, after making some additional references, to the manner on which local railways and electric railways crossing Dominion chartered railways had been dealt with in the past, stated that he would not insist on the bill. Subsequently on his motion the committee rose without reporting; the effect being that the bill was killed.

Increases in Electric Railway Freight and Passenger Rates.

British Columbia Electric Railway—As stated in Canadian Railway and Marine World for November, the enquiry by the British Columbia Public Utilities Commissioner, into the question of whether fares on the company's Vancouver lines should remain at 6c, as authorized by the B.C. Legislature last session until such time as the commissioner should fix a rate, was suspended, owing to the question of jurisdiction having been raised, it being contended that the Railway Act passed by the Dominion Parliament at its first session this year, had transferred jurisdiction over the company from the Province of British Columbia. Following this the B.C.E.R. Co., and the Vancouver Power Co., filed several tariffs with the Board of Railway Commissioners at Ottawa and the board passed order 28,946, Oct. 28, approving, until further order, the company's standard tariffs of maximum tolls, to be charged between points on its lines, other than the Vancouver & Lulu Island and the Vancouver, Fraser Valley & Southern Railways, for which excepted lines standard tariffs had been approved by the board previously. The tariffs thus approved are standard maximum freight mileage tariff C.R.C. 146; standard passenger tariff, or maximum mileage tolls on interurban lines, C.R.C. 9; standard tariff of maximum tolls on street car lines (not including interurban lines), C.R.C. 8, and express tariff C.R.C., no. Ex. 1, and supplement 1, thereto of the B.C.E.R. Co., and the Vancouver Power Co. The principal tariffs are as follows:

B.C.E.R. CO. LTD., AND VANCOUVER Power Co. Ltd.—Standard maximum freight mileage tariff between all stations on the companies' lines (B.C.E.R., 229; C.R.C., 146):

Class rates in cents per 100 lb. governed by Canadian Freight Classification.

Distance, miles.	1	2	3	4	5	6	7	8	9	10
5	24	21	18	15	12	11	9	10	10	7½
10	24	21	18	15	12	11	9	10	10	7½
15	25	21½	18	15	12	11	10	11½	10	7½
20	29	25	19	15	14	11½	10	11½	11½	7½
25	32½	27½	22½	17½	16½	14	11½	12½	12½	9
30	35	30	24	17½	17½	14	11½	14	12½	9
35	39	32½	26½	20	17½	16½	14	14	14	10
40	41½	35	27½	21½	19	17½	14	15	15	11½
45	45	37½	30	22½	20	19	14	15	16½	11½
50	47½	40	32½	25	22½	20	15	16½	17½	12½
55	52½	44	35	26½	25	21½	16½	17½	19	14
60	55	47½	37½	27½	25	21½	16½	17½	20	14
65	59	49	39	30	26½	22½	17½	19	21½	15
70	60	51½	40	31½	27½	22½	17½	19	22½	15
75	62½	52½	41½	31½	29	24	17½	20	24	16½
80	65	55	44	32½	29	24	17½	20	24	16½
85	67½	56½	45	32½	30	25	19	21½	25	16½
90	70	59	46½	35	32½	25	20	21½	25	17½
95	72½	60	47½	36½	32½	26½	20	22½	26½	17½
100	75	62½	50	37½	32½	26½	20	22½	26½	17½

Where rates are not shown for exact distance use rates for next greater distance.

B.C.E.R. CO. LTD., VANCOUVER Power Co. Ltd.—Standard passenger tariff of maximum mileage tolls to be charged between all stations on the company's interurban lines, as specified below (B.C.E.R., 24; C.R.C., 9). Between municipality of Vancouver and municipality of New Westminster. Between municipality of Vancouver or municipality of New Westminster and points outside the said municipalities on the Central Park line, including Cedar Cottage and 10th Ave. New Westminster. Between points on the Central Park line outside of the municipalities of Vancouver and New Westminster. Between New Westminster station and Chilliwack station on the Vancouver Power Co.'s lines. Between Victoria station and Deep Bay station on the Saanich line, Vancouver Island. The maximum passenger fare between all stations will be 3c per mile or fraction thereof. In estimating the tolls to be charged, any amount not exceeding 2½c shall be waived, and above 2½c, and up to 5c shall be considered as 5c.

B.C.E.R. CO. LTD.—Standard tariff of maximum fares to be charged on the company's street car lines (not including interurban lines), B.C.E.R.

Vancouver—Between any two points both of which are within the municipality 23, C.R.C. 8. Cash fare, 6c per passenger.

Point Grey—Beween any two points on the Oak St. line, within the municipality; cash fare, 6c per passenger. Between any two points on all other lines within the municipality; cash fare, 6c per passenger.

South Vancouver—Between any two points both of which are within the municipality; cash fare, 6c per passenger.

Burnaby—Between Edmonds and New Westminster municipal boundary. Cash fare, 6c per passenger.

Hastings Road line—Cash fare, 5c per passenger.

New Westminster—Between any two points both of which are within the municipality; cash fare, 6c per passenger.

North Vancouver and district—Cash fare, 6c per passenger.

Victoria and surrounding municipalities—Cash fare, 5c per passenger.

Fraser Mills line—Cash fare, 6c per passenger between New Westminster municipal boundary and Fraser Mills.

Brantford and Hamilton Railway-Hamilton Radial Electric Railway — The Board of Railway Commissioners on Oct. 29, reserved decision in the application for an order directing these electric lines to refrain from charging increased fares for pupils attending business colleges in Hamilton, Ont. G. E. Waller, General Superintendent of Railways, Dominion Power and Transmission Co., owning the two lines, is reported to have stated that a line had to be drawn somewhere, and the company had decided to make a distinction between pupils attending schools under government supervision, and those in attendance at business colleges run as commercial enterprises. The company was, however, willing not to charge the increased rates to pupils under 18 years of age.

Fort William Electric Ry.—A press report of Nov. 8, stated that it was announced in Fort William, Ont., that application was about to be made to the Ontario Railway and Municipal Board, for permission to increase the fare on the electric railway within the city to 7c. Alderman G. Macdonald, chairman of the Public Utilities Committee, is reported as denying that the committee had then given the matter any consideration, and as stating that the deficit in the operation of the railway for the year was expected to be $50,000, and that it would not surprise him if fares had to be increased again.

Guelph Radial Ry.—A straight 5c fare was put in operation on this municipally owned railway, at the middle of October, except for children under 10, who are still sold 10 tickets for 25c.

Hamilton St. Ry.—The Hamilton, Ont., City Council's special street railway committee, has, according to a press report, asked the Hamilton St. Ry. to buy 10 new cars, and the company is reported to have said that it is not prepared to do so unless a straight 5c fare is permitted. The committee, at a later date, is reported to be considering this, and various other matters affecting the company, and expects to present a report early in Dec.

London St. Ry.—We are officially advised that Chief Justice Falconbridge did not give a written judgment on the application for quashing the bylaw passed by the London, Ont., City Council, authorizing the London St. Ry. to charge increased fares, but simply stated that the bylaw ought to be quashed and entered judgment accordingly.

As a result of the quashing of the bylaw, the company ceased collecting the increased fares and is now charging only the fares authorized by the original franchise. It subsequently gave notice to its employes that the old scale of wages would be reverted to from Nov. 1. Whether or not the men would go on strike was discussed, and after some negotiation, it was agreed that the increased rate of wages should be paid to Jan. 1.

Another question raised was as to the increased fares collected, and there are reports that actions will be taken against the city council to recover damages. The amount collected in excess of the original franchise fares is said to be about $30,000.

At a meeting of the city council, Nov. 17, it was agreed to take no action on the company appealing the case against the increased fare bylaw, and the clerk was authorized to secure information from the company respecting the service that will be given in return for increased fares so as to submit this in the form of a plebiscite to the electors.

Ottawa Electric Ry. — The Supreme Court of Canada heard arguments, Nov. 17 and 18, in the appeal of the Ottawa Elecric Ry. vs. the Nepean Tp. and others, against the Board of Railway Commissioners' refusal to approve an increased tariff of fares on the Britannia line. The company's application for approval of the tariff came before the board, Nov. 18, 1918, and the hearing of the case was concluded Dec. 2, 1918, judgment being reserved. The judgment, which was given by Sir Henry Drayton, then Chief Commissioner, was published in full in Canadian Railway and Marine World for March, 1919.

The company at once took steps to have the decision reviewed. The following questions were submitted to the court for decision:—Was the board, under the agreements with the city and Hintonburg, and the statutes, right in disallowing the tariff? Does the extension outside the city commence at Holland Ave. or the former westerly limit of Hintonburg? Had the board a right to consider the company's operations as a whole; or must it permit tariffs to be filed on a mileage basis covering services on the Britannia line without reference to the large part of the system covered by municipal agreements? The arguments were concluded Nov. 18, and the court reserved judgment.

Quebec Ry., Light and Power Co.— After having had the matter before it on several occasions, the Quebec City Council passed a bylaw, Nov. 15, authorizing amendments in the company's franchise to permit the charging of increased fares. The new sections in the agreement provide that a fare not in excess of 7c, with transfer privileges, be collected; infants in arms to be carried free; children less than 7 years of age to be charged 3c. Tickets are to be sold 4 for 25c and 17 for $1; children's half fare tickets at 10 for 25c; tickets for school children under 16 years of age, 10 for 25c. Tickets, for male and female employes, good between 6 and 8 a.m., and between 5 and 7 p.m. on all week days, are to be sold at 6 for 25c. These increases are to continue for five years.

It was reported, Nov. 17, that the new tariff will be put in operation within a few days thereafter and that the company would accept outstanding tickets for one month, when those remaining in the hands of the public will be redeemed at their original cost.

Saskatoon Municipal Ry.—Referring to the decision of the Saskatoon, Sask., City Council, to increase cash fares on the Municipal Ry., from 5c to 6c, and to sell tickets at certain rates as mentioned in Canadian Railway and Marine World for November, pg. 671, we are officially advised that there is no intention to increase fares to passengers who buy tickets. In order to popularize the buying of tickets, it has been decided to sell them in stores at 5 for 25c, and on the street cars at 6 for 35c, and to charge a cash fare of 6c. The previous fare was 5c straight, so that to the casual traveller on the lines, or to others who do not buy tickets, it means an increase of 1c.

Winnipeg Electric Ry.—In connection with the temporary increase of fares to 6c, granted by the Manitoba Public Utilities Commissioner, the city solicitor has filed a statement alleging the invalidity of the Public Utilities Act, in connection with the injunction proceedings. The company has filed its defence and also a counter claim, not naming any sum, for damages sustained through not being allowed to collect increased fares when so ordered by the Public Utilities Commissioner. The temporary injunction was granted Oct. 4, and was dissolved Oct. 8, so that the company's claim for damages covers the five days during which it was operative, and in respect of which the city promised to make good any loss sustained in the event of the company's contention being upheld. It was reported, Nov. 11 that the case was not likely to be heard before the new year. It is also reported that the Manitoba Government will take steps at the legislature's next session to make sure that the Public Utilities Act cannot be challenged.

It is reported that the valuator employed to make an appraisal of the company's property for the Public Utilities Commissioner has finished his work, his figures being approximately $20,000,000 against the $26,000,000 valuation placed upon the property by the company.

Proposals for Taking Over Electric Railways by Hydro Electric Power Commission of Ontario.

Dominion Power and Transmission Co.—Reports persist in recurring in Hamilton that negotiations are in progress between the Hydro Electric Power Commission of Ontario and the Dominion Power and Transmission Co., for taking over all that company's interests, and that an appraisal of its property has been made. It was reported Nov. 13 that arrangements for the conclusion of a bargain were approaching completion.

Guelph Radial Ry.—A report on this municipal railway, made by Hydro Electric Power Commission engineers, was presented at a meeting of the Guelph City Council, Nov. 3. It states that $150,000 will be required to put the line in thorough repair, and that under any system of separate operation there will probably be a loss of up to $17,000 a year, but that the line could be made to pay as a feeder to the commission's radial lines. The commission is prepared to take over the line for operation, but the city would have to assume all financial responsibility.

The Guelph Radial Ry. Co., on Nov. 27, received an offer from the Hydro Electric Power Commission of Ontario, to purchase the property, as of July 1, 1920, for $150,000.

Sandwich, Windsor and Amherstburg Ry.—The ratepayers of the City of Windsor, the Towns of Walkerville, Amherstburg, Ford City, Ojibway and Sandwich, and the Townships of Anderdon, Sandwich East and Sandwich West, will vote on Dec. 6, on bylaws and agreements between the various municipalities and the Hydro Electric Power Commission of Ontario, "for the construction, acquisition, equipment and operation of an electric railway under the Hydro Electric Railway Act of 1914, and amendments thereto." Schedule A, attached to the agreement, describes the route of the proposed electric railway as follows:—

Tecumseh-Ford Section—Leaving Tecumseh the line runs northerly along Lesperance Rd. to Riverside Drive, where it turns due west along private right of way to the end of Ottawa Ave., thence along that avenue to the easterly limits of Ford City.

Ford City Section—From the easterly limits of Ford City the line runs along Ottawa Ave., Strabane and Sandwich Sts., to the westerly limits of the municipality.

Walkerville Section—One line extends along Sandwich St. from the easterly to the westerly limits of the municipality. A second line extends along Ottawa St., between Lincoln and Walker Roads. A third line extends from the Essex Terminal Ry. tracks at Walker Rd., northerly to Wyandotte St., and west on Wyandotte St. to the municipal boundary between Walkerville and Windsor. A fourth line extends northerly from Wyandotte along Devonshire, Assumption and Victoria Roads to intersect the first line, above mentioned on Sandwich St.

Windsor City Section—One line extends along Sandwich St. from the boundary of the Town of Walkerville to Elm Ave., and then southerly on the said avenue to London St. A second line extends westerly from the Walkerville boundary on Wyandotte St. to Ouellette Ave. A third line extends southerly on Ouellette Ave., from Sandwich to the race track on Tecumseh Road. A fourth line extends westerly on London St. from Ouellette St. to the western boundary of the city. A fifth line extends southerly on Wellington Ave. from London St. to Tecumseh Road.

Sandwich Town Section—From the easterly boundary of the municipality the line extends westerly to the Springs loop near the Canadian Salt Co.'s plant at the west end of the municipality.

Sandwich-Amherstburg Section—From the Springs loop in Sandwich, the line extends along Bedford St. and Main St., Ojibway, to the River Rd. at Turkey Creek, and then due south along the River Rd. to the Town of Amherstburg, entering that town along Appsley and Richmond Sts.

Schedule B gives the amount of debentures to be issued in connection with the above mentioned lines as follows:

Sandwich East Tp.	$ 260,685
Sandwich West Tp.	251,570
Anderdon Tp.	143,536
Ford City Town.	64,582
Walkerville Town.	200,940
Sandwich Town.	262,173
Ojibway Town.	44,515
Amherstburg Town.	126,867
Windsor City.	745,132
Total	$2,100,000

The agreement gives the commission power to acquire any existing electric lines, to form part of the system, and in that connection it is proposed to acquire the various lines owned and operated by the Sandwich, Windsor and Amherstburg Ry., the routes of which are described in Schedule A, quoted above.

Fort William Municipal Ry.-Port Ar-

thur Civic Ry.—In connection with the suggestion that a way out of the financial difficulties in which the Cities of Port Arthur and Fort William find themselves owing to continued deficits in operating their municipal railways, the two city councils decided recently to have the lines valued by the Hydro Electric Power Commission of Ontario with a view to their being taken over by the commission.

R. G. Sneath, B.A.Sc., of the commission's engineering staff, is reported to have arrived in Fort William, Nov. 20, to make a valuation of the Fort William Municipal Ry. He is reported to have said that he had not any instructions to make a similar valuation of the Port Arthur Civic Ry. as a request had not come from the council of that city.

Electric Railway Notes.

The Montreal and Southern Counties Ry. carried 2,355,236 passengers during the year ended June 30.

The Edmonton, Alta., Radial Ry., put in operation on Nov. 3, a new car schedule on its lines on the south side.

The Ottawa Electric Ry. put in force on Oct. 28, a new schedule on its Britannia line which gives a thorough car from Ottawa every 15 minutes.

The Winnipeg Electric Ry. will, according to a press report, put 8 large steel cars in operation. They are being built in the company's shops.

Winnipeg Electric Ry. employes are reported as contemplating the formation of a local street railwaymen's union and severing the present connection with the international union.

The Stone and Webster Co. of Boston, Mass., is stated to have reported to the Brooklyn Rapid Transit Co.'s receiver that the company will require a fare in excess of 8c in order to pay its operating expenses, and fixed charges, out of its income, before June 30, 1922.

The Brantford, Ont., Municipal Ry. Commission has bought from Preston Car and Coach Co., for its recently completed Terrace Hill line, 2 single truck, double end cars, similar to those already in use on the line. They have Westinghouse 101-B 2 motors, and extra heavy trucks.

The City of Montreal is reported to have entered suit against the Montreal Tramways Co. for $255,672, alleged to be due the city over and above sundry amounts due the company by the city. The amount is made up of charges for snow removal, repairs to pavements, etc.

The Regina, Sask., City Council, on Nov. 7, once more put off consideration of the bylaw to allow of the operation of one man cars on the Regina Municipal Ry. It was announced that a special meeting of the council would be called for Dec. 8, to finally decide the question.

The London and Port Stanley Ry., is, according to a press report, going to buy another electric locomotive for freight work. For this and other purposes, the London City Council is being asked to submit a bylaw to the ratepayers in Jan., 1920, to authorize the issue of $200,000 of debentures.

The Nova Scotia Tramways and Power Co. was reported, Nov. 20, to have ordered 24 new cars for its electric railway service in Halifax, N.S. The cars, it is stated, will be of the single truck type, fitted with air brakes and all modern safety devices. The cars are to be operated by one man, the entrance and exit being at the front.

Donat Matte, while a passenger on a Quebec Ry., Light and Power Co.'s car in Quebec City, Nov. 10, was expostulated with by the conductor for spitting on the floor. Matte assaulted the conductor, and was brought before the Recorder, Nov. 11, on charges of spitting on the car floor, creating a disturbance and with assault. He was fined $20 and costs for the assault and the spitting, and $5 and costs or 8 days imprisonment on the other charge.

The Montreal and Southern Counties Ry., which sometime ago curtailed the service on its line from Montreal, announced a further curtailment to take effect, Nov. 16. Residents along the line protested, and it was announced, Nov. 12, that the proposed reduced schedule of cars would be held in abeyance for further consideration. A press report states that the company will put on some additional trains, so as to bring the schedule as near normal as the traffic warrants.

The Fort William Electric Ry., as a result of a fire at its car barns, Nov. 13, was left with only 5 serviceable cars out of 23 to carry on its service. The Port Arthur Civic Ry. lent 7 cars to Fort William to augment the service. Of the 18 cars damaged by the fire only 2 are repairable, and these are being again put in order. In order to provide the cars requisite, it is reported that a number of the summer cars will be converted into winter cars, and some additional second hand cars purchased.

Stoney Creek, Ont., residents are reported to have asked the Hamilton, Grimsby and Beamsville Electric Ry. to run a car into Hamilton, at an earlier hour than at present. G. E. Waller, Grand Superintendent of Railways, is reported to have stated that such a service would not pay, but if it is desired, and the Saltfleet Township Council will guarantee the actual running expenses of the car, the company will put one on, and that if the traffic develops and pays expenses, the company will continue to operate the car.

The Fort William, Ont., City Council passed a resolution, Oct. 28, calling for a joint meeting of the two inter city committees to take the preliminary steps necessary for submitting to the ratepayers at the municipal elections in Jan., 1920, the question as to whether the two cities, Fort William and Port Arthur, shall unite and be governed by one mayor and one council. The amalgamation of the two cities might bring about a solution of many of the difficulties in connection with their city car lines, and the interurban connecting line, which have at present to be faced.

The Ottawa South Municipal Association on Nov. 13, discussed the car service given that district by the Ottawa Electric Ry., and concluded that there are three solutions of the problem: 1. To buy the line; 2. To extend the system, and 3, to introduce the service at cost system. F. D. Burpee, Superintendent, O.E.R., informed the meeting that with its franchise expiring in 4 years, the company had to give careful considerations to all demands for increased service. The company could not see its way to buy the 15 or 20 additional cars suggested. If 20 additional cars were bought, a new barn would be required for housing them, and additional power would be required for their operation.

Mainly About Electric Railway People.

R. R. Knox, who entered the Winnipeg Electric Ry.'s service in 1893, and had been Traffic Superintendent for 21 years, has been appointed Assistant to the General Manager, and is attached to the Vice President and General Manager's office for special assignments. He had been a member of the Winnipeg School Board since 1908, and was chairman in 1916-1917. He takes an active interest in sports and is President of the St. John's Curling and Lawn Bowling Association.

Alex. McDonald, heretofore in Montreal Tramways Co.'s service, has been appointed Traffic Superintendent, Winnipeg Electric Ry., vice R. R. Knox, appointed Assistant to General Manager.

Lieut.-Col. C. W. McLean, D.S.O., M.P. for Brigg, Eng., who has been appointed a parliamentary secretary to one of the Cabinet Ministers in England, is a son of Brig.-Gen. H. H. McLean, M.P., and formerly President, St. John Ry., St. John, N.B.

W. H. Moore, General Manager, Toronto & York Radial Ry., who received an honorary degree from Laval University a short time ago, addressed the Montreal Young Men's Canadian Club, Nov. 20, urging a better understanding between English and French speaking Canadians.

Sir Alfred Stanley, M.P. for Ashton-under-Lyne, Eng., who resigned the Presidency of the British Board of Trade a few months ago, and who was formerly an electric railway official in the United States, will, it is said, resign his seat in the House of Commons and be offered a peerage.

Ottawa Railway Terminals—N. Cauchon Chairman, Ottawa Town Planning Society, is advocating the electrification of all railway terminals in Ottawa. The electrification system, he says, may not be an immediate possibility, but the moving of the shunting yards outside the city should be done as soon as the government takes over the G.T.R. These yards should be constructed 2 or 3 miles outside the city. A system of freight distribution lines throughout the city would supply the merchants, while the bulk of the heavy work could be done in the outside yards.

Compressed Air for Railway Operation—A press report states that an invention has been submitted to the Italian State Railways for their operation by compressed air. The invention consists of a new method of compressing air by which big central tanks may store enormous power to be distributed to stations along the line by strong pipes. Isambard Brunel, who designed and constructed the Great Western Ry. in England, carried out plans for the operation of the South Devon Ry. by atmospheric pressure in 1844. The system was a failure and was abandoned after a year's trial, the great tower station at Exeter for compressing air remaining until recent years as a monument of an experiment which has not been successful.

The Hydro Electric Power Commission of Ontario's Electric Railway Projects.

While the present activities of the Hydro Electric Power Commission of Ontario are being more particularly directed to the promotion of the Toronto-Whitby-Bowmanville line, and the Hamilton-Elmira-Guelph line, the other projects have not been lost sight of, and preparations for construction work are being pushed forward. The full list of lines projected and centering on Toronto is a formidable one, and when laid out on a map, show that a very large area will be served by them. The lines include, one from Toronto, passing through Guelph, Kitchener and Stratford to London, the bylaws for which were voted on by the municipalities in Jan., 1916, a line from Port Credit, on the first mentioned line to Hamilton and St. Catharines, which was voted on in Jan., 1917, the revote in Hamilton and a couple of other municipalities being taken during this year; a line between Welland and Bridgeburg, on which the votes were taken in Jan., 1917; lines to Stouffville, Port Perry and Whitby, which were voted on in Oct., 1914, the Toronto-Whitby-Bowmanville line, on which some municipalities voted during November, and the Hamilton-Elmira-Guelph line, which will be voted on at the municipal elections in Jan., 1920.

In addition to these projects, which have taken definite shape, reports have been prepared on a line between St. Catharines, Niagara and Welland, which will be issued at an early date. A line has also been surveyed from London to connect with the lines in the Windsor Section. Numerous other surveys have been made of routes for probable lines, but none of these have yet advanced beyond the project stage.

Toronto Eastern Ry. and Connections—In connection with the project for the acquisition of the Toronto Eastern Ry., which is a present practically completed from Bowmanville to Pickering, Ont., and the building of such additional mileage as will give a continuous line from Toronto to Bowmanville, a bylaw will be submitted to Toronto ratepayers at the municipal elections, Jan. 1, to authorize the issue of debentures for $4,328,668 as the city's share of the projected expenditure. Pickering Tp. voted previously in favor of the project and the following municipalities voted approximately during November as follows:

	For	Against
Bowmanville Town	301	9
Oshawa Town	474	97
Scarboro Tp.	464	89
Whitby Town	347	47
Whitby East Tp.	301	44
Whitby West Tp.	158	22

The vote in Darlington Tp. will be taken Dec. 18, and it is expected that the vote in York Tp. will also be fixed for an early date.

In the course of the campaign in connection with the submission of bylaws for the issue of debentures to acquire the Toronto Eastern Ry. and to complete it to various municipalities, Sir Adam Beck is reported to have stated at Brookline, Nov. 11, that the construction and operation of electric railways would enable the commission to gradually reduce the cost of power; to an estimated extent of from $5 to $17 a horse power. Referring to matters connected with the acquisition of certain G.T.R. branch lines for electrification, Sir Adam is reported to have said these might be leased for a long term, probably 99 or 999 years; if a satisfactory lease could be obtained he saw no reason for the commission buying the lines outright. A press report also mentions the probability that some of the Canadian Northern Ry. lines might also be taken over by the Commission and electrified.

In connection with both of these matters, an Ottawa report states that the Dominion Government is quite ready to make a deal as soon as the commission is prepared to talk business on a fair basis. Where the proposed electric lines parallel existing lines owned by the Dominion Government, there would be a disposition to turn the government lines over to the commission at a fair valuation, conditional on the Canadian National Rys. getting the through traffic which might originate on them.

Under the agreement beween the Toronto City Council and commission, the city is to provide a right of way into the city. The entrance is planned over waterfront lands, which are not owned by the City of Toronto, but by the Toronto Harbor Commission. A press report states that the value of this right of way is over $6,000,000. Sir Adam Beck is reported to have said, Nov. 13, that the eastern entrance to Toronto will be from the north, and that the route will be southward, with a terminal on property owned by the Harbor Commission at the foot of Yonge St. The Hydro Electric Power Commission, Sir Adam is reported to have said, proposed to acquire either in whole or in part, the Toronto and York Radial Ry.'s Metropolitan Division, divert it from Yonge St., and carry it down east of Yonge St., to a junction with the entrance of the line from the east.

Hamilton-Elmira-Guelph Line—The report presented Nov. 6, in Galt, at a meeting of reppresentatives of the 17 municipalities interested in the construction of the Hamilton-Elmira-Guelph line, by F. A. Gaby, the commission's Chief Engineer, gave the following particulars as to route, cost, distribution of cost among the several municipalities and estimated receipts:

Estimated Receipts and Expenditure.

Passenger fares	$754,303
Freight and miscellaneous	16,944
Total	$971,247
Operating expenses	$416,342
Maintenance expenses	152,028
	568,370
Interest charges	326,533
	894,903
Estimated net profit	76,344
	$971,247

Hamilton-Galt-Section — Commencing in Hamilton at a point on the Toronto-Hamilton-Niagara line, 0.75 of a mile west of the terminal at James St., the route extends westerly across Cootes Paradise, along the south side of the marsh and through Dundas Valley to Copetown; crossing the G.T.R. near Copetown the line continues northwesterly to the south end of Galt, entering the city along the Grand River.

Galt-Kichener Section—Leaving Galt the line follows the general direction of the Grand River and Schneider's Creek into Kitchener.

Kitchener-Elmira Section—From Kitchener the line extends in practically a straight line through Waterloo to Elmira, crossing the line between Waterloo and Woolwich Tps. near Heidelberg station.

Preston-Guelph Section—From a junction located on the Galt-Kitchener section the line will extend through Preston and Hespeler and follow the general direction of the Speed River into the center of the City of Guelph. A spur from a point in this line between Hespeler and Guelph to Puslinch Lake, a distance of nearly 3 miles, will be built at a cost of $95,000.

The estimated cost of building the line and providing rolling stock is $6,530,659, which is appropriated among the different municipalities as follows:

Tp. of Ancaster	$ 174,080
Tp. of W. Flamboro	82,734
Tp. of Beverly	241,464
Tp. of N. Dumfries	157,817
Tp. of Waterloo	557,973
Tp. of Woolwich	283,687
Tp. of Puslinch	38,543
Tp. of Guelph	92,549
Village of Elmira	91,484
Town of Dundas	168,942
Town of Waterloo	379,487
Town of Preston	281,615
Town of Hespeler	146,761
City of Hamilton	607,173
City of Galt	1,318,031
City of Kitchener	1,053,080
City of Guelph	855,239

The following particulars as to gradients, etc., on the projected line were given out in Hamilton, Nov. 22, by the city officials:

Commencing at the proposed Hamilton terminal, the line will extend westerly, south of the Desjardins canal, on a maximum 0.5 grade to Dundas and rise on a 1.8 compensated grade to Copetown, thence northwesterly, via Rockton and Sheffield, to Galt. Provision is made for private right of way, 100 ft. wide, with heavy construction throughout. It is the intention to use the large interurban terminal on James St. North, in Hamilton, that has already been projected for the Toronto-Hamilton-St. Catharines radial line, thus allowing convenient and desirable transfer arrangements at such a point for passengers going in both directions.

The ratepayers of the 17 municipalities named above, will vote at the January elections on bylaws authorizing the issuing of debentures for the amounts placed after their names for the construction and equipment of the line.

London St. Ry. Sale Negotiations—The London, Ont., City Council has been giving considerable attention, either directly or through its no. 1 committee, during the last month to the question of the purchase of the London St. Ry.'s franchise. It is reported that the company has offered to sell out at par, and it is stated that the city will not consider this. It was reported Nov. 14 that a valuation of the property was to be made by Hydro Electric Power Commission of Ontario engineers and that it is not therefore likely that a bylaw to purchase can be prepared so that the electors can vote on it at the municipal election Jan. 1, 1920.

The Montreal Tramways Co. started, Nov. 3, operating one-man cars on the Glen line, running from Westmount station down to James St. It is reported that one-man cars will be put in operation on other stub lines in the city.

The Toronto Ry. has, after somewhat protracted negotiations, agreed to provide special badges for plainclothes policemen in Toronto, to enable them to ride free on the cars.

Electric Railway Projects, Construction, Betterments, Etc.

Brantford Municipal Ry.—We are officially advised that the Terrace Hill line at Brantford, Ont., which has been completed and put in operation recently, serves a portion of the city that previously had no service, and also gives connection with a number of factories. It commences at the corner of Colborne St., runs up Murray St. to Elgin St., along Elgin St. to West St., along West St. to Dundas St., and along that street to St. Paul Ave., a distance of 10,400 ft. It is the Brantford Municipal Ry. Commission's intention as soon as the subway under the G.T.R. tracks at St. Paul Ave. is opened up, to continue the line down St. Paul Ave. to meet Brant Ave. The line is single track, with turnouts; laid with 80 lb. A.S.C.E. rails, 60 ft. lengths; on a ballast foundation; cedar ties, and gas weld bonds. The overhead work consists of 4% trolley wire carried on cedar poles.

Approximately 3,000 ft. of new track has been laid in West Brantford, but this will not be put into operation until a new bridge has been erected. (Nov., pg. 612).

Calgary Municipal Ry.—Commissioner Graves is reported to have stated recently that the proposed change of the Ogden line was undecided. It is proposed to take the line from the Sewer Pipe Co.'s plant straight across the prairie to a little east of the Canadian Malting Co. plant and from there it would parallel the C.P.R. to the bridge, and follow the same route as at present for the rest of the way.

Residents of Tuxedo district waited on the city commissioners, Oct. 31, to ask that the Tuxedo line be extended northeast to Fortieth Ave., thence west to Centre St., and to go back to the city that way. Commissioner Graves pointed out that this would necessitate the construction of 2 miles of new track, and Commissioner Samis suggested that rather than go to the expense of extending and maintaining the public utilities, the city should provide a house moving outfit and move the houses in the suburbs closer in. The Tuxedo ratepayers stated that if the extension asked for could not be granted, they would prefer to have the line left as at present, rather than that a suggested alteration should be made. (Nov., pg. 612).

Cape Breton Electric Co.—C. C. Curtis, General Manager, met a committee of the Sydney, N.S., City Council, recently, and informed it, that in view of the present situation of the tramway industry, and the Cape Breton Electric Co. in particular, it was impossible to make any extensions of lines in Sydney at present. He stated that the extension on Victoria Road, which had been asked for in particular, would be a convenience. Alderman McLeod suggested that a loop from the Dominion St. line would give the necessary accommodation. (Feb., pg. 88).

Fort William Electric Ry.—The car barns at Fort William, Ont., valued at $85,000, were destroyed by a fire of unknown origin Nov. 13. The city council has decided to restore the damaged buildings at once. About 100 ft. of brick wall will have to be torn down and rebuilt; new steel girders put in to replace those twisted by the heat, a new roof will have to be put on, and all the internal wood work replaced. (Nov., pg. 612).

Grand River Ry.—The Board of Railway Commissioners has been asked for approval of a diversion of the company's line through Waterloo Tp., and the City of Kitchener, Ont. (Oct., pg. 553).

Grand River Ry.—In connection with recent press reports that the company proposed to abandon street operation in Galt, Ont., we are advised that the company's franchise expires in 1921, and that a renewal of it is not being pressed for. The company does not operate a street railway service in Galt in the ordinary sense of the term, and it is considered that the public can be better served by a line on private right of way than by one on the public street. The city has asked certain terms for a renewal of the franchise for 25 years. The matter is under consideration and no definite decision has been reached. (Oct., pg. 553).

Levis County Ry.—The Quebec Public Utilities Commission heard a complaint of the municipality of St. Romuald against the company recently. It is stated that the track level was to be changed in certain places, particularly in front of the St. Romuald city hall, and the municipality claims that the work has not been completed. One of the questions at issue was as to whether the company or the municipality was to pay for the work. The commissioners inspected the track in question, Oct. 29. (Nov., pg. 612).

London and Port Stanley Ry.—The commissioners are reported to have decided at a meeting Nov. 17, to ask the London City Council for authority to spend $218,000 on permanent improvements at London, St. Thomas and Port Stanley as follows:—$95,000 for an electric locomotive and 3 new cars; $16,500 for new car barn at London, $9,500 for scales for weighing cars and $7,000 for additions to shops, the balance being for general betterment work. Sir Adam Beck explained that the money may not all be spent next year, but that it is necessary to have the permission of the people to spend it. At a meeting of the city council in the evening the commissioner's request was referred to no. 1 committee for consideration.

Montreal and Southern Counties Ry.—We are officially advised that the following works are being done: Renewal of one mile of track on Victoria Ave., Montreal South, and at Montreal terminals; construction of loop line and connections with Montreal Tramways Co. at corner of Youville and McGill, and Common and McGill Sts. (May, 1918, pg. 211).

Montreal Tramways Co.—A press report states that an extension of the company's lines through Beaumont, Bremner and Ball Sts., in the Park Ave. district, is being asked for, and that the city commissioners are urging the Montreal Tramways Commission to order the company to start the work next spring. (Sept., pg. 501).

Niagara, St. Catharines and Toronto Ry.—D. B. Hanna, President Canadian National Rys., and E. W. Oliver, Superintendent, Niagara, St. Catharines and Toronto Ry., met the St. Catharines, Ont., City Council, Oct. 29, to discuss a renewal of the company's franchises. Mr. Hanna told the council that part of the local development proposed included the building of a new station on St. Paul St. W., at an estimated cost of $50,000 and the building of a line along Carlton St. to connect the Lake St. line with Ontario St.

In reply to a question as to the probability of the present lines becoming part of the hydro electric railway system being organized by the Hydro Electric Power Commission of Ontario. Mr. Hanna stated that the whole question of the H.E.P.C.O. taking over electric lines would be dealt with at one time at a later date. At present the Canadian National Rys. board was simply concerned with getting local franchises renewed so that they oculd proceed with the development of the system on its own account.

An extension of the franchises to 1937 is asked. A further conference on the matter will be held. (June, pg. 324).

Nova Scotia Tramways and Power Co.—The Halifax, N.S., City Council agreed, Nov. 6, to the company laying a temporary track across the common, in connection with the extension of the line between Gottingen and Windsor Sts. This will enable the line to be put in operation this year. The laying of a concrete bed for the tracks, and the paving of the roadway will be stone later. (Nov., pg. 612).

Ottawa Electric Ry.—F. D. Burpee, Superintendent, waited on the Ottawa Board of Control recently, and asked permission to lay a second track on Bell Ave., from Raymond St. to the terminus at Ernest St. The matter was referred to the Works Commissioner for investigation and report. (Nov., pg. 612).

Quebec Ry., Light and Power Co.—We are officially advised that the company has under construction a line in Limoilu Ward, from 3rd Ave. along 10th St., to the Canadian Northern Ry. tracks, on Beauport Road, about 1,400 ft. The route was described in Canadian Railway and Marine World for June, pg. 324. (July, pg. 392).

In connection wtih the increase of fares granted by the Quebec City Council, Nov. 15, referred to elsewhere in this issue, the agreement provides for an extension of the car service in Belvedere Ward; the extension of tracks on Beauport Road, the operation of a line from Stadacona to the line on Dorchester St., over the Lavigueur bridge; a direct line from Domaine Lariet to Crown St.; a line from Lamontagne Ave., to Commissioners St. and a subway under the Canadian Northern Ry., tracks at Beauport St. This latter work is to be done under the Board of Railway Commissioners' supervision and the Q.,R.L.& P. Co. is to pay one-third of the cost.

Saskatoon Municipal Ry.—A press report states that the Saskatoon, Sask., City Council has decided to extend the Twentieth St., line to the north side of Avenue H., at an estimated cost of $1,818. (April, pg. 208).

Sherbrooke Ry. and Power Co.—We are officially advised that under its new agreement with the Sherbrooke, Que., City Council, the company has built a second track on its line from Strathcona Square along Wellington St. to King St., and for 200 ft. east on King St. An extension of the lines in the West Ward, provided for in the agreement, was started Sept. 15, and the work is expected to be completed in June, 1920. (Nov., pg. 612).

Toronto Civic Ry.—The Toronto board of control has decided to recommend

that the city council apply to the Ontario Legislature for authority to issue $160,000 of debentures for building of a second track on the West Bloor St. line from Quebec Ave. to Runnymede Rd., without seeking the approval of the ratepayers thereof.

Toronto Ry.—The Ontario Railway and Municipal Board has directed that the company commence the construction of the long projected car line on Pape Ave., not later than April 15, 1920, and complete it by July 15.

Waterloo-Wellington Ry.—A press report of Nov. 18, stated that an offer had been submitted to W. H. Brenthaupt, President, Waterloo-Wellington Ry., to the Mayor of Guelph, Ont., for the building of a line from Kitchener to Guelph, passing through Bridgeport, Bloomingdale, New Germany, and Marden, and entering Guelph over the Elora Road, 15.5 mile. The estimated cost of the line is $280,000, and it is suggested that the cities of Kitchener and Guelph should each guarantee bonds for $140,000.

The Waterloo-Wellington Ry. was originally the Berlin and Bridgeport Ry., a title which was changed in 1912 to the Berlin and Northern Ry., and again in 1918 to the Waterloo-Wellington Ry. The company has 3.5 miles of line from Kitchener to Bridgeport, Ont. It has power to extend its line from Bridgeport to Elora and Fergus. Negotiations were in progress recently with the City of Kitchener for the sale of the line. (Oct., pg. 533).

Winnipeg to Rice Lake, Man.—A press report states that an electric power line will be built from Winniueg to the Rice Lake mining district, to supply power to the mines, and that possibly an electric railway will be built in connection. The Bruce Consolidated Mining Co. is reported to be interested.

Electric Railway Finance Meetings, Etc.

Cape Breton Electric Co.—

	12 mons. to Aug. 31, Aug., 1919	12 mons. to Aug. 31, Aug., 1918	1919	1918
Gross	$50,926.78	$44,716.17	$566,918.04	$495,112.55
Expenses	38,022.50	33,745.61	436,124.19	356,036.62
Net	12,904.28	10,970.56	130,793.85	139,075.93

Hamilton St. Ry.—The Hamilton, Ont., City Treasurer received $19,030.36, Nov. 11, as the city's percentage on the company's receipts for the quarter ended Sept. 30. The percentage for the corresponding quarter of 1918 was $17,-810.83. The receipts on which the percentage is calculated, were, for the three months ended Sept. 30, $221,880.04.

The Nova Scotia Tramways and Power Co., has applied to the Nova Scotia Public Utilities Commission for power to issue new securities for $440,000, the proceeds to be used, according to a press report, to pay for Dartmouth Electric Light and Power Co.'s property, $104,-586; to defray engineering expenses, $280,147, and legal expenses, $56,217.

Regina Municipal Ry.—City Commissioner Thornton, in a report on the financial condition of the civic public utilities, recently stated, with reference to the street railway department, that he believed that by the end of the year the financial showing would be well within the estimates, though at the time, the deficit was higher than the proper proportion of the year's estimate. During the previous two weeks the earnings had been sufficient to provide for all expenses, including overhead charges.

The deficit on the operation of the street railway department for the nine months, ended Sept. 30, according to the city auditor's report, was $25,753.92.

St. Thomas Street Ry. (Municipal)—

	Oct., 1919
Receipts	$1,507.53
Operating expenses	2,050.74
Power	312.76
Deficit	855.97

Toronto Civic Ry.—

	Oct., 1919	Oct., 1918
Revenue	$41,373.79	$25,313.30
Passengers carried	2,457,091	1,497,595

Regina Municipal Railway's Financial Position.

The Regina, Sask,, City Commissioners, H. Black and L. A. Thornton, reported recently on the city finances for the 10 months ended Oct. 31. Referring to the municipal railway, they said:

"The financial status of this utility shows a steady improvement in spite of greatly increased opperation costs as regards both labor and material. The utility will finish the year within its estimate, which provided for a deficit of $27,-900. The deficits for the years 1914-15-16-17 and 1918, were $95,752.42, $109,-755, $76,145.03, $63,912.19 and $67,407.21 respectively. With the end of the war and the population on the increase traffic conditions will soon demand better service on some lines which will call for more cars. The following table indicates concisely the improvement in the operating statements as compared with former years. The figures for 1916, 1917 and 1918 are actual and for 1919 are based on the actual results for 10 months increased proportionately to cover the whole year:

	1919	1918	1917	1916
"Revenue	$323,546.00	$248,637.76	$231,727.45	$212,790.19
"Expenditures	253,546.00	218,459.09	199,572.98	191,359.68
"Operations surplus	70,000.00	30,178.67	32,154.47	21,430.51
"Fixed charges	97,911.00	97,585.88	96,066.66	97,575.54
"Deficit	27,900.00	67,407.21	63,912.19	76,145.03

The interim balance sheet signed by the city auditors, and accompanying the commissioners' report, gave the following figures:—

Revenue.	
Fares, advertising, etc.	$258,362.42
Balance net deficit	26,985.89
	$285,348.31
Expenditures.	
Operating expenses	$203,755.61
Fixed charges	81,592.70
	$285,348.31

The New Brunswick Power Co. and the City of St. John.

Under an act passed by the New Brunswick Legislature in 1918, a commission was appointed by the government to investigate matters relating to the New Brunswick Power Co., owning the electric railway, etc., in St. John. The commission decided, among other things, that the original cost of the company's properties used, Jan. 1, 1919, in railway, gas, electric light, and power service, was $2,800,000. The correctness of this finding having been questioned, an act was passed at the legislature's last session referring the matter to the N.B. Court of Appeal, to determine whether or not the commissioner's finding was justified by the evidence before them, and if not, then to determine what amount should have been found as the original cost of the property. The case was first on the list for the court's sittings, which opened in Fredericton, Nov. 11, but by consent of counsel was postponed.

Electric Ry. Employes' Wages, Working Conditions, Etc.

British Columbia Electric Ry. — The Board of Conciliation, appointed Sept. 29 to deal with wages, etc., of employes, represented in the Vancouver, New Westminster and Victoria divisions of the Amalgamated Association of Street Railway Employes of America, filed a unanimous report, Oct. 25, signed by H. A. Stone, Chairman; T. W. Fletcher, representing the company and T. Coughlin, representing the men. The report is divided into three parts: 1, Wages; 2, Cost of living; 3, Working conditions. The award fixes the wages of conductors and motormen, and other employes engaged in the operation of cars as follows, per hour:

City lines.	New rate	Old rate
First 6 months	45c	40c
Second 6 months	50c	45c
Third 6 months	53c	48c
Thereafter	56c	51c
Interurban lines.		
First 6 months	45c	40c
Second 6 months	51c	46c
Third 6 months	55c	50c
Thereafter	58c	53c
Freight.		New rate
First 6 months		47c
Second 6 months		53c
Third 6 months		57c
Thereafter		60c
Passenger brakemen.		
First 6 months		45c
Second 6 months		49c
Third 6 months		52c
Thereafter		55c
Brakemen, freight		55c
Trolleymen		52½c

The increases in the other departments very from 3c to 7c an hour The board considered the position of the men employed on the Sandwich Division, and those of the 16th St. yards as outside their jurisdiction. The award has been accepted by the company and the employes.

London St. Ry.—See under "Increases in Electric Railway Freight and Passenger Rates."

Winnipeg Electric Ry.—We are officially advised that the company informed its employes, Oct. 22, that it was prepared to accept the Mathers' award and pay the rate of wages therein specified as long as it is permitted to collect the increased fares authorized by the Public Utilities Commissioner's temporary order. The arrears of increased pay from June 1 to the date of the award which are said to have amounted to about $60,000, are reported to have been paid on Nov. 12.

The Saskatoon, Sask., Municipal Ry., has, we are officially advised, effected an exchange with the Calgary, Alta., Municipal Ry. of 6 double truck cars for 7 single track cars. From three of the double truck cars two motors and one controller were removed. The single track cars are to be repainted, both inside and out, and are to be forwarded to Saskatoon as soon as completed, ready for running, and the double track cars are to be sent to Calgary in their present condition. Both sets of cars were purchased by the respective cities in 1913. The reason Saskatoon is getting rid of its double truck cars is due to the fact that they cannot be operated over the steel traffic bridge across the Saskatchewan River, that bridge not being capable of carrying such a load.

Marine Department

Canadian Government Merchant Marine, Ltd., Shipbuilding, Operation, Etc.

Orders for Steamships—The acting Minister of Marine, Hon. A. K. Maclean, gave the following information in the House of Commons, Nov. 3, in answer to an enquiry by J. H. Sinclair, M.P. for Antigonish and Guysborough, N.S. Fifty-three steel cargo steamships had then been ordered by the Marine Department for Canadian Government Merchant Marine Department for Canadian Government Merchant Marine Ltd.; 13 had been delivered and were in service, 8 more had been launched and would be in service in a few weeks thereafter. The last contract then given was on Sept. 30, to Canadian Vickers Ltd., for 33,400 d.w. tons. (Editor's note, 4 ships of approximately 8,350 d.w. tons each) at $170 a ton. They are to be delivered June 15, July 31, Oct. 15, and Nov. 1, 1920, respectively.

Following are particulars of orders for steamships for which authority has been given by order in council in addition to those referred to by Canadian Railway and Marine World in previous issues:—

Marine Department contracts 50 to 53, both inclusive, dated Sept. 30; four steel cargo steamships; builder, Canadian Vickers Ltd., Montreal; builder's yard nos. 77 to 80, both inclusive; approximately 8,350 d.w. long tons each, at $170 a ton, approximate launching dates May, June, Sept., and Oct., 1920, approximate delivery dates, June, Aug., Oct., and Nov., 1920. The keels for builder's yard nos. 77 and 78, will be laid before the end of December, and for builder's yard nos. 79 and 80, next spring.

One steel cargo steamship; builder, Midland Shipbuilding Co., Midland, Ont., approximately 3,950 long d.w. tons, at $180 a ton.

Two steel cargo steamships; builder, Wallace Shipyards Ltd., North Vancouver, B.C., approximately 8,350 d.w. long tons each, at $167.50 a ton.

The foregoing are all the orders which had been officially announced as decided on up to Nov. 21, but it is probable that some more orders will be placed in the near future, which in addition to the 56 already ordered, will bring the total up to 60 or more.

The Nova Scotia Steel and Co., New Glasgow, N.S., which is building 2 steel cargo steamships of approximately 2,800 d.w. tons each for Canadian Government Merchant Marine Ltd., has been negotiating for approximately 5,100 d.w. tons.

Deputations from Collingwood and Kingston interviewed the Minister of Marine recently to urge the giving of further orders for steel cargo steamships to Collingwood Shipbuilding Co., which has plants at both those places. A member of the deputation expressed the opinion after the interview that orders would probably be secured for 2 more ships.

J. J. Coughlan, of J. Coughlan and Sons, Vancouver, B.C., has been in Ottawa for some little time with a view to obtain orders for 2 steel cargo steamships of approximately 8,100 d.w. tons each, in addition to the 4 of that size which they are already building for Canadian Government Merchant Marine Ltd.

Harbour Marine Co., Victoria, B.C., which has orders for 2 steel cargo steamships for Canadian Government Merchant Marine Ltd., is endeavoring to obtain orders for 2 more.

A Victoria, B.C., press dispatch of Nov. 6 said it was reported there that the Dominion Government planned to give contracts to British Columbia shipyards for building 50 wooden schooners. We are officially advised from Ottawa that the government has never given any contracts for wooden schooners, and that its programme does not include any for the future.

Oil Fuel—The question of equipping the 4 steel cargo steamships of approximately 8,350 d.w. tons each, which were ordered by the Marine Department from Canadian Vickers Ltd., for Canadian Government Merchant Marine Ltd., on Sept. 30, to use fuel oil instead of coal, is being considered by the Marine Department.

Keels Laid—Since Canadian Railway and Marine World for November was published, we have been advised of the laying of the following keels for steel cargo steamships for Canadian Government Merchant Marine Ltd.

S.s. Canadian Farmer, Marine Department contract 46; builder's yard no. 65; approximately 3,950 d.w. tons; Collingwood Shipbuilding Co., Collingwood, Ont.; Sept. 3, 1919.

S.s. Canadian Observer; Marine Department contract 47; builder's yard no. 66; approximately 3,950 d.w. tons; Collingwood Shipbuilding Co., Collingwood, Ont.; Sept. 12, 1919.

S.s. Canadian Thrasher; Marine Department contract 43; builder's yard no. 2; approximately 8,100 d.w. tons; Prince Rupert Drydock & Engineering Co., Prince Rupert, B.C., Oct. 20.

S.s. Canadian Forester, Marine Department contract 16; builder's yard no. 8; approximately 5,100 d.w. tons; Tidewater Shipbuilders Ltd., Three Rivers, Que., Nov. 1.

Marine Department contracts 48 and 49; builder's yard nos. 10 and 11; two ships of approximately 3,500 d.w. tons each; Dominion Shipbuilding Co., Toronto, Nov. 8.

S.s. Canadian Prospector; Marine Department contract 37; builder's yard no. 14; approximately 8,100 d.w. tons; J. Coughlan & Sons, Vancouver, B.C., in September.

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 Artificer; Marine Department contract 48; builder's yard no. 10; approximately 3,500 d.w. tons; Dominion Shipbuilding Co., Toronto.

Canadian Engineer; Marine Department contract 49; builder's yard no. 11; approximately 3,500 d.w. tons; Dominion Shipbuilding Co., Toronto.

Canadian Victor; Marine Department contract 50; builder's yard no. 77; approximately 8,350 d.w. tons; Canadian Vickers Ltd.

Canadian Conqueror; Marine Department contract 51; builder's yard no. 78; approximately 8,350 d.w. tons; Canadian Vickers Ltd., Montreal.

Canadian Commander; Marine Department contract 52; builder's yard no. 79; approximately 8,350 d.w. tons; Canadian Vickers Ltd.

Canadian Leader; Marine Department contract 53; builder's yard no. 80; approximately 8,350 tons; Canadian Vickers Ltd.

Launchings of Steamships—Since Canadian Railway & Marine World for November was issued we have been advised of the following launchings:

S.s. Canadian Gunner; Marine Department contract 12; builder's yard no. 64; approximately 3,750 d.w. tons; Collingwood Shipbuilding Co., Collingwood, Ont.; Oct. 4.

S.s. Canadian Rancher, Marine Department contract 14; builder's yard no. 6; approximately 5,100 d.w. tons; Tidewater Shipbuilders Ltd., Three Rivers, Que.; Nov. 1.

S.s. Canadian Spinner; Marine Department contract 27; builder's yard no. 71; approximately 8,350 d.w. tons; Canadian Vickers Ltd., Montreal, Nov. 8, 1919.

S.s. Canadian Planter; Marine Department contract 28; builder's yard no. 72; approximately 8,100 d.w. tons; Canadian Vickers Ltd., Montreal; Nov. 22.

Delivery of Steamships—In addition to the steamships mentioned in Canadian Railway and Marine World previously, the following have been delivered to the Marine Department by the builders, and were transferred to Canadian Government Merchant Marine Ltd., for operation, on the dates mentioned.

Oct. 29, s.s. Canadian Adventurer; Marine Department contract 19a; builder's yard no. 41; approximately 3,400 d.w. tons; Port Arthur Shipbuilding Co. She sailed from Montreal, Nov. 14, with general cargo for St. John's, Nfld.

Nov. 6, s.s. Canadian Gunner; Marine Department contract 12; builder's yard no. 64; approximately 3,750 d.w. tons; Collingwood Shipbuilding Co. She was loaded at Montreal for Trinidad and Demerara.

Nov. 15, s.s. Canadian Aviator; Marine Department contract 6; builder's yard no. 101; approximately 5,100 d.w. tons; Wallace Shipyards Ltd., North Vancouver, B.C., builders. She was loaded with a cargo of lumber for the United Kingdom.

Nov. 18, s.s. Canadian Sower, Marine Department contract 20A; builder's yard no. 42; approximately 3,400 d.w. tons; Port Arthur Shipbuilding Co., Port Arthur Shipbuilding Co., Port Arthur, Ont., builders.

Officials Appointed—J. W. Corbett has been appointed Purchasing Agent, C.G.M.M., at Montreal.

J. P. Doherty has been appointed Port Agent, C.G.M.M., at St. John, N.B. He was for some years with the Allan Steamship Co., then with Canadian Pacific Ocean Services Ltd., and during the last year with the C.P.R.

Alex. Hector has been appointed Port Agent, C.G.M.M., at Halifax, N.S. He was formerly in the Intercolonial Ry. Service, then with the Halifax & Southwestern Ry., and when that company's office was closed in Halifax, he was transferred to the Canadian National Rys.

Officers of Steamships—The following officers, appointed by Canadian Government Merchant Marine Ltd., in addition to those mentioned in Canadian Railway and Marine World for October. The first column contains the name of the vessel, the second that of the captain, and the third, that of the chief engineer:

Canadian Ranger	Wm. Bradley	R. Blair

Operating Results—An Ottawa press dispatch credited the Minister of Marine with having stated, to a Collingwood, Ont., deputation, which waited on him on Nov. 7 to secure further orders for steel cargo steamships for the Collingwood Shipbuilding Co., that the business done by the ships built for, owned by, and operated by the government, through Canadian Government Merchant Marine Ltd., under the Canadian National Rys. management, was so remunerative that the net profit from their operation during their first year, would repay their cost price, that if the government desired to dispose of them it could do so at a profit, that all the ships built for the government on the Great Lakes, and placed in ocean service, had been booked for full cargoes until June next, and that if the government had not possessed a number of ships to carry products to foreign countries, Canadian trade would have been seriously hampered during this year. We are offcially advised that Mr. Ballantyne did no state that the ships would repay their cost out of the first year's operation, but that what he did say was that during war time this could easily have been done and that they are doing very well at the present lower rates.

Offers for Steamships—The Gulf of St. Lawrence Shipping Co., Quebec, Que., made an offer to the Marine Department for the 2 steel cargo steamships of approximately 2,800 d.w. tons each, which are being built by Nova Scotia Steel Co., but it was declined.

The British American Shipbuilding Co., Welland, Ont., is building 2 steel cargo steamships, of approximately 4,350 d.w. tons, under orders from the Marine Department, for Canadian Government Merchant Marine Ltd., viz.: Canadian Otter and Canadian Squatter; Marine Department contracts 44 and 45; builder's yard nos. 4 and 5. The keel for s.s. Canadian Otter was laid Mar. 29, and the keel for s.s. Canadian Squatter was laid July 14. It is expected that the former will be launched early in 1920.

Canadian Vickers Ltd., Montreal, launched the s.s. Canadian Spinner; Marine Department contract 27; builder's yard no. 71; approximately 8,350 d.w. tons; on Nov. 8, the christening being performed by Mrs. Alex. Johnston, wife of the Deputy Minister of Marine, during which music was rendered by the company's employes' orchestra. This is the seventh steamship built by the company for Canadian Government Merchant Marine Ltd. The chief details are: length, 400 ft.; breadth, moulded, 52 ft.; depth, moulded, 31 ft.; i.h.p., 3,000.

On Sept. 30 the Marine Department gave Canadian Vickers Ltd., contracts for 4 more steel cargo steamships of approximately 8,350 d.w. long tons each, at $170 a ton; Marine Department contracts 50 to 53, both inclusive; builder's yard nos. 77 to 80, both inclusive. We are advised that the keels for ships, builder's yard nos. 77 and 78 will be laid before the end of December and for ship builder's yard nos. 79 and 80, next spring.

Canadian Vickers Ltd. launched the s.s. Canadian Planter; Marine Department contract 28; builder's yard no. 72; approximately 8,100 d.w. tons; Nov. 22; the christening being performed by Mrs. W. J. Alderson, wife of Lloyd's Surveyor for the Port of Montreal.

Collingwood Shipbuilding Co., Collingwood, Ont., launched the s.s. Canadian Gunner; Marine Department contract 12; builder's yard no. 64; approximately 3,750 d.w. tons; Oct. 4, and delivered her to the Marine Department, Uov. 6; when she was transferred to Canadian Government Merchant Marine Ltd.

The company laid keels as follows for the 2 steel cargo steamships of approximately 3,950 tons each, ordered from it by the Marine Department, Sept. 11, for Canadian Government Merchant Marine.

S.s. Canadian Farmer, Marine Department contract 46; builder's yard no. 65; Sept. 3.

S.s. Canadian Observer; Marine Department contract 47; builder's yard no. 66; Sept. 12.

J. Coughlan & Sons, Vancouver, B.C., who have contracts from the Marine Department for 4 steel cargo steamships of approximately 8,100 d.w. tons each, for Canadian Government Merchant Marine Ltd., laid the keel of the fourth one, s.s. Canadian Prospector, Marine Department contract 37; yard no. 14, in September.

Dominion Shipbuilding Co., Toronto, laid keels on Nov. 8 for 2 steel cargo steamships, for Canadian Government Merchant Marine; Marine Department contract 48 and 49; builder's yard nos. 10 and 11; each 3,500 d.w. tons.

Port Arthur Shipbuilding Co., Port Arthur, Ont., delivered the s.s. Canadian Adventurer; Marine Department contract 19a; builder's yard no. 41; approximately 3,400 d.w. tons; to the Marine Department, Oct. 29, and she was transferred to Canadian Government Merchant Marine Ltd., for operation.

The company delivered the s.s. Canadian Sower; Marine Department contract 20A; builder's yard no. 42; approximately 3,400 d.w. tons, to the Marine Deppartment, Nov. 18, for transfer to Canadian Government Merchant Marine Ltd.

The Prince Rupert Drydock & Engineering Co., Prince Rupert, B.C., has contracts from the Marine Department for building 2 steel cargo steamships of approximately 8,100 d.w. tons each, for Canadian Government Merchant Marine Ltd. As stated previously in Canadian Railway and Marine World, the keel for one of these, s.s. Canadian Reaper; Marine Department contract 42; builder's yard no. 1; was laid Sept. 27, 1919. The keel for the other one, s.s. Canadian Thrasher; Marine Department contract 43; builder's yard no. 2; was laid Oct. 30.

Tidewater Shipbuilders Ltd., Three Rivers, Que., has contracts from the Marine Department for 4 steel cargo steamships, of approximately 5,100 d.w. tons each, for Canadian Government Merchant Marine Ltd. The keel for the s.s. Canadian Settler; Marine Department contract 13; builder's yard no. 5; was laid Jan. 8, and she was launched Sept. 20. The keel for the s.s. Canadian Rancher; Marine Department contract 14; builder's yard no. 6; was laid Jan. 10, and she was launched Nov. 1. The keel for the s.s. Canadian Fisher; Marine Department contract 15; builder's yard no. 7; was laid Sept. 20; and the keel for the s.s. Canadian Forester; Marine Department contract 16; builder's yard no. 8; was laid Nov. 1.

Wallace Shipyards Ltd., North Vancouver, B.C., delivered the s.s. Canadian Aviator; Marine Department contract 6; builder's yard no. 101; approximately 5,100 d.w. tons; to the Marine Department, Nov. 15, and she was immediately transferred to Canadian Government Merchant Marine Ltd., and loaded with lumber for the United Kingdom.

Details of the Different Types of Steamships for Canadian Government Merchant Marine Ltd.

The following are comparative details of the seven different types of steamships being built for Canadian Government Merchant Marine Ltd.:

	2,800 ton.	3,400 ton.	3,750 ton.	4,300 ton.	5,100 ton.	8,100 ton.	10,500 ton
Length, overall	280 ft.	260 ft.	260½ ft.	333 ft. 7 ins.	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, moulded	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	Tri-compound	Triple expansion	Triple expansion	Triple expansion	Triple expansion	Triple expansion	Triple expansion
Cylinders, diar.	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	1,300	1,200	1,800	2,500	3,000	4,000
Boilers—Type	Single ended	Single ended	Single ended	Single ended	Single ended	Single ended.	Single ended
No.	2	2	2	2	3	3	4
Diar. and length	12¾ 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	12
Grate surface	80 sq. ft.	135 sq. ft.	100 sq. ft.	132 sq. ft.	156 sq. ft.	198 sq. ft.	270
Heating surface	3,000 sq. ft.	4,670 sq. ft.	3,900 sq. ft.	5,162 sq. ft.	7,275 sq. ft.	7,743 sq. ft.	10,500 sq. ft.
Speed	8½ knots	9 knots	9 knots	11 knots	11 knots	11 knots	12 knots
Classification	Lloyd's	Lloyd's	Brit. Corp.	Lloyd's	Lloyd's	Lloyd's	Lloyd's

Orders for Steel Cargo Steamships for Canadian Government Merchant Marine Ltd.

The following is a complete list of steel cargo steamships which the Dominion Marine Department has been authorized, by order in council, to place orders for, and which orders are to be carried out.

The figures given in the column headed "Long tons d.w." and which are preceded by an asterisk (*) show the total deadweight capacities as determined after the ships have been completed. The other figures in that column, not preceded by an asterisk, show the approximate total deadweights, subject to modification as they may vary above or below the figures given and as may be ascertained after the ships are completed, and of course, the total prices will vary accordingly.

The following contractions are used in the column giving the type of the vessels to be built:—s.d., single deck; 2.d., two deck; 3.d., three deck; lake, lake type; p. poop; b., bridge; f'c's'le, forecastle.

Contract	Contract date	Name	Builder	Yard no.	Long tons d.w.	Price per ton d.w.	Total price	Type	Classification	Speed knots	Keel laid	Launched	Delivered.
1	Mar. 4, 1918	Canadian Voyageur	Canadian Vickers Ltd.	66	*4,575	$207.	$ 947,025	S.d., p., b. and f'c's'le.	Lloyd's	11	June 11, 1918	Nov. 23, 1918	Feb. 22, 1919
2	May 22, 1918	Canadian Pioneer	" "	67	*8,408	180.	1,513,440	2.d., p., b and f'c's'le.	"	11	July 17, 1918	Dec. 3, 1918	May 9, 1919
3	May 18, 1918	Canadian Warrior	Collingwood Shipbuilding Co.	61	*3,995	205.	818,975	Lake, s.d., p., b. and f'c's'le	Bri. Corp.	9	Not stated	Dec. 21, 1918	Apr. 26, 1919
4	Mar. 15, 1918	Canadian Volunteer	Wallace Shipyards Ltd.	100	*4,530	207.	937,710	S.d., p., b. and f'c's'le.	Lloyd's	11	Oct. 1, 1918	Apr. 5, 1919	June 19, 1919
5	Nov. 25, 1918	Canadian Trooper	" "	106	4,300	217.	933,100	S.d., p., b. and f'c's'le.	"	11	Nov. 15, 1918	May 31, 1919	Aug. 7, 1919
6	Nov. 25, 1918	Canadian Aviator	" "	101	5,100	210.	1,071,000	S.d., p., b. and f'c's'le.	"	11	Apr. 5, 1919	Oct. 9, 1919	Nov. 15, 1919
7	Nov. 25, 1918	Canadian Raider	" "	102	5,100	210.	1,071,000	S.d., p., b. and f'c's'le.	"	11	May 31, 1919	.....	.....
10	July 5, 1918	Canadian Recruit	Collingwood Shipbuilding Co.	62	*3,964	205.	812,620	Lake, s.d., p., b. and f'c's'le	Bri. Corp.	9	June 3, 1918	May 3, 1919	June 7, 1919
11	Oct. 17, 1918	Canadian Signaller	" " "	63	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	"	9	Jan. 16, 1919	June 28, 1919	Aug. 30, 1919
12	Oct. 17, 1918	Canadian Gunner	" " "	64	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	"	9	Feb. 10, 1919	Oct. 4, 1919	Nov. 6, 1919
13	Aug. 9, 1918	Canadian Settler	Tidewater Shipbuilders Ltd.	5	5,100	200.	1,020,000	S.d., p., b. and f'c's'le.	Lloyd's	11	Jan. 8, 1919	Sept. 20, 1919	.....
14	Aug. 9, 1918	Canadian Rancher	" " "	6	5,100	200.	1,020,000	S.d., p., b. and f'c's'le.	"	11	Jan. 10, 1919	Nov. 1, 1919	.....
15	Jan. 24, 1919	Canadian Fisher	" " "	7	5,100	200.	1,020,000	S.d., p., b. and f'c's'le.	"	11	Sept. 20, 1919	.....	.....
16	Jan. 24, 1919	Canadian Forester	" " "	8	5,100	200.	1,020,000	S.d., p., b. and f'c's'le.	"	11	Nov. 1, 1919	.....	.....
17	Sept. 4, 1918	Canadian Trapper	Davie Shipbuilding & Repairing Co.	459	5,100	200.	1,020,000	S.d., p., b. and f'c's'le.	"	11	Mar. 11, 1919	Oct. 9, 1919	.....
18	Sept. 4, 1918	Canadian Hunter	" " " "	460	5,100	200.	1,020,000	S.d., p., b. and f'c's'le.	"	11	Mar. 28, 1919	.....	.....
19	Sept. 4, 1918	Canadian Trader	Port Arthur Shipbuilding Co.	39	*3,341	205.	684,905	Lake, s.d., p., b. and f'c's'le	"	9	Dec. 9, 1918	May 5, 1919	July 18, 1919
19a	Mar. 1, 1919	Canadian Adventurer	" " "	41	3,400	210.	714,000	Lake, s.d., p., b. and f'c's'le	"	9	Mar. 31, 1919	Sept. 8, 1919	Oct. 29, 1919
20	Sept. 4, 1918	Canadian Sailor	" " "	40	*3,357	205.	688,185	Lake, s.d., p., b. and f'c's'le	"	9	Dec. 10, 1918	May 31, 1919	Aug. 7, 1919
20a	Mar. 1, 1919	Canadian Sower	" " "	42	3,400	210.	714,000	Lake, s.d., p., b. and f'c's'le	"	9	Mar. 31, 1919	Oct. 9, 1919	Nov. 18, 1919
21	Sept. 13, 1918	Canadian Mariner	Halifax Shipyards, Ltd.	1	8,100	195.	1,579,500	2.d., p., b and f'c's'le.	"	10	Feb. 24, 1919	.....	.....
22	Sept. 13, 1918	Canadian Explorer	" " "	2	8,100	195.	1,579,500	2.d., p., b and f'c's'le.	"	10	Mar. 15, 1919	.....	.....
23	Oct. 11, 1918	Canadian Navigator	Canadian Vickers Ltd.	73	4,300	215.	924,500	S.d., p., b. and f'c's'le.	"	11	Jan. 22 1919	Oct. 18, 1919	.....
24	Oct. 11, 1918	Canadian Ranger	" " "	68	*8,382	188.	1,575,816	2.d., p., b and f'c's'le.	"	11	Aug. 26, 1918	Apr. 19, 1919	May 23, 1919
25	Oct. 11, 1918	Canadian Seigneur	" " "	69	*8,391	188.	1,577,508	2.d., p., b and f'c's'le.	"	11	Nov. 30, 1918	May 7, 1919	Aug. 14, 1919
26	Oct. 11, 1918	Canadian Miller	" " "	70	8,100	188.	1,522,800	2.d., p., b and f'c's'le.	"	11	Dec. 2, 1918	Aug. 16, 1919	Sept. 24, 1919
27	Oct. 11, 1918	Canadian Spinner	" " "	71	8,350	188.	1,569,800	2.d., p., b and f'c's'le.	"	11	Apr. 23, 1919	Nov. 8, 1919	.....
28	Oct. 11, 1918	Canadian Planter	" " "	72	8,100	188.	1,522,800	2.d., p., b and f'c's'le.	"	11	May 10, 1919	Nov. 22, 1919	.....
29	Jan. 24, 1919	Canadian Armourer	Harbour Marine Co.	1	8,100	198.	1,603,800	2.d., p., b and f'c's'le.	"	11	July 14, 1919	.....	.....
30	Jan. 24, 1919	Canadian Composer	" " "	2	8,100	198.	1,603,800	2.d., p., b and f'c's'le.	"	11	Aug. 9, 1919	.....	.....
31	Dec. 11, 1918	Canadian Beaver	Collingwood Shipbuilding Co.	15	3,750	205.	768,750	Lake, s.d., p., b. and f'c's'le	Bri. Corp.	9	Apr. 7, 1919	.....	.....
32	Mar. 1, 1919	Canadian Runner	Port Arthur Shipbuilding Co.	43	4,300	215.	935,250	S.d., p., b. and f'c's'le.	Lloyd's	10½	Aug. 29, 1919	.....	.....
33	Mar. 1, 1919	Canadian Carrier	" " "	44	4,300	215.	935,250	S.d., p., b. and f'c's'le.	"	10½	Aug. 29, 1919	.....	.....
34	Nov. 22, 1918	Canadian Importer	J. Coughlan & Sons.	11	8,100	198.	1,603,800	2.d., p., b and f'c's'le.	"	11	Apr. 26, 1919	.....	.....
35	Nov. 22, 1918	Canadian Exporter	" "	12	8,100	198.	1,603,800	2.d., p., b and f'c's'le.	"	11	May 3, 1919	.....	.....
36	Nov. 22, 1918	Canadian Inventor	" "	13	8,100	198.	1,603,800	2.d., p., b and f'c's'le.	"	11	July 24, 1919	.....	.....
37	Nov. 22, 1918	Canadian Prospector	" "	14	8,100	198.	1,603,800	2.d., p., b and f'c's'le.	"	11	Sept., 1919	.....	.....
38	Dec. 10, 1918	Canadian Cruiser	Halifax Shipyards Ltd.	3	10,500	197½	2,073,750	3.d, p., and f'c's'le.	"	12	Oct. 2, 1919	.....	.....
39	Dec. 10, 1918	Canadian Constructor	" " "	4	10,500	197½	2,073,750	3.d, p., and f'c's'le.	"	12	Oct. 6, 1919	.....	.....
40	Mar. 31, 1919	Canadian Sealer	Nova Scotia Steel & Coal Co.	5	2,800	210.	588,000	S.d., p., b. and f'c's'le.	"	8½	Mar. 27, 1919	Oct. 2, 1919	.....
41	Mar. 31, 1919	Canadian Miner	" " " "	6	2,800	210.	588,000	S.d., p., b. and f'c's'le.	"	8½	Mar. 31, 1919	.....	.....
42	Feb. 21, 1919	Canadian Reaper	Prince Rupert Dry Dock and Engineering Co.	1	8,100	198.	1,603,800	2.d., p., b and f'c's'le.	"	11	Sept. 27, 1919	.....	.....
43	Feb. 21, 1919	Canadian Thrasher	" "	2	8,100	198.	1,603,800	2.d., p., b and f'c's'le.	"	11	Oct. 30, 1919	.....	.....
44	Jan. 23, 1919	Canadian Otter	British American Shipbuilding Co.	4	4,350	215.	935,250	S.d., p., b. and f'c's'le.	Bri. Corp.	10	Mar. 29, 1919	.....	.....
45	Jan. 23, 1919	Canadian Squatter	" " " ..	5	4,350	215.	935,250	S.d., p., b. and f'c's'le.	"	10	July 14, 1919	.....	.....
46	Sept. 11, 1919	Canadian Farmer	Collingwood Shipbuilding Co.	65	3,950	180.	711,000	Lake, s.d., p. b., and f'c's'le	Lloyd's	11	Sept. 3, 1919	.....	.....
47	Sept. 11, 1919	Canadian Observer	" " "	66	3,950	180.	711,000	Lake, s.d., p., b. and f'c's'le	"	11	Sept. 12, 1919	.....	.....
48	Sept. 2, 1919	Canadian Artificer	Dominion Shipbuilding Co.	10	3,500	180.	630,000	Lake, s.d., p., b. and f'c's'le	"	11	Nov. 8, 1919	.....	.....
49	Sept. 2, 1919	Canadian Engineer	" " "	11	3,500	180.	630,000	Lake, s.d., p., b. and f'c's'le	"	11	Nov. 8, 1919	.....	.....
50	Sept. 18, 1919	Canadian Victor	Canadian Vickers Ltd.	77	8,350	170.	1,419,500	2.d. p., b. and f'c's'le.	Lloyd's	11	.....	.....	.....
51	Sept. 18, 1919	Canadian Conqueror	" " "	78	8,350	170.	1,419,500	2.d. p., b. and f'c's'le.	"	11	.....	.....	.....
52	Sept. 18, 1919	Canadian Commander	" " "	79	8,350	170.	1,419,500	2.d. p., b. and f'c's'le.	"	11	.....	.....	.....
53	Sept. 18, 1919	Canadian Leader	" " "	80	8,350	170.	1,419,500	2.d. p., b. and f'c's'le.	"	11	.....	.....	.....
—	.....	.....	Midland Shipbuilding Co.	.....	3,950	180.	711,000	Lake, s.d., p., b. and f'c's'le	Lloyd's	11	.....	.....	.....
—	.....	.....	Wallace Shipyards Ltd.	107	8,350	167.50	1,398,625	2.d. p., b. and f'c's'le.	"	11	.....	.....	.....
—	.....	.....	" " "	108	8,350	167.50	1,398,625	2.d. p., b. and f'c's'le.	"	11	.....	.....	.....
					334,793		$64,944,584						

General Shipbuilding Matters Throughout Canada.

Steamships for French Government—Ottawa press dispatches of Nov. 19 stated that the French Government, being badly in want of ships for its colonial and Mediterranean trade, and to build up its commerce generally, had tried unsuccessfully to buy the steel cargo steamships being built for the Dominion Government, to be operated by Canadian Government Merchant Marine Ltd., and that it is prepared to order 121 steel cargo steamships, of various sizes, to be built in Canada, at $170 a d.w. long ton; also that in this connection it has arranged with New York financiers for a credit of $180,000,000.

Bridgewater Shipping Co., Bridgewater, N.S., launched the trawler Versailles, Nov. 11; armistice day; the name being chosen from the place where the armistice was signed. Her dimensions are: length, overall, 136 ft.; beam, 26 ft.; depth of hold, 11 ft. This is the fourth similar ship launched at this yard this year.

Canadian Allis-Chalmers Ltd., Bridgeburg, Ont., is building 2 steel steamships of approximately 2,500 d.w. tons each, of a similar type of those built recently for the British Government, under orders from the Imperial Munitions Board. It is expected that they will be completed about the reopening of navigation next year. Negotiations for their sale are in progress.

Canadian Car and Foundry Co., Fort William, Ont.—The s.s. E. D. Kingsley built at this yard for the Kingsley Navigation Co., Vancouver, B.C., sailed from Fort William Nov. 20, with a cargo of barley for Montreal.

Canadian Vickers Ltd., Montreal—The s.s. Alsace, illustrated on this page, has been built and equipped complete, by this company, for Cie. Francaise d'Armement d'Importation de Nitrate de Soude, Paris, France. She is of the single screw cargo type, with 2 decks, poop, bridge and forecastle, straight stem and elliptical stern. There are 4 cargo holds and 6 watertight compartments. She is rigged with 2 masts, with special double system of derricks and an arrangement of winches for the expeditious handling of nitrate cargoes. She was built under Lloyd's 100 A1 classification, and is of the following dimensions: length, b.p., 400 ft.; breadth, moulded, 52 ft.; depth, moulded, 31 ft.; 8,400 d.w. tons. The propelling machinery consists of triple expansion, surface condensing engine, placed about amidships with cylinders 25, 41 and 68 in. diar., by 45 ins. stroke, and steam is supplied by 3 single ended Scotch boilers, each 10½ ft. long by 15½ ft. diar., working under natural draft. Her speed is 11 knots an hour at sea under load. She is equipped with the contraflo condensing and feed heating system, to ensure maximum economy in fuel consumption. The auxiliary machinery consists of a pair of feed pumps, general service pump, ballast pump and circulating pump, all made in Canada.

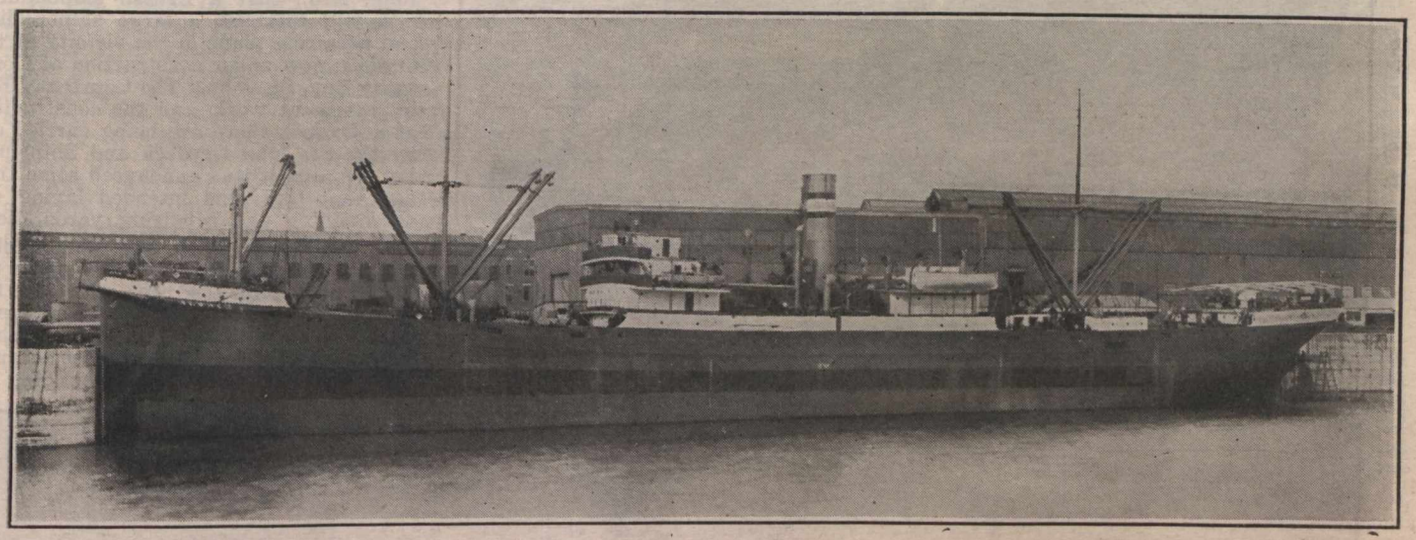
Cholberg Ship Co., Victoria, B.C.—The third 4 masted schooner built by this company for the Porsgrund Damp and Seil Co., Porsgrund, Norway, was launched Oct. 25, and named Vancouver.

J. Coughlan and Sons, Vancouver, B.C. —It is reported that this company is arranging to build a number of steamships on yard account unless the Dominion Government places further orders for steamships for Canadian Government Merchant Marine, Ltd., and that they will be of approximately 8,800 d.w. tons. A concrete dry dock is also planned for Burrard Inlet at an approximate cost of $3,658,000, to be 700 ft. long, 100 ft. wide at entrance, 32 ft. depth of water over sill at ordinary spring tide, and to accommodate any vessel which can pass through the Panama Canal. It is said a ship repairing plant will be built in connection with the graving dock and also a marine railway capable of handling vessels up to 9,000 d.w. tons.

Dominion Shipbuilding Co., Toronto, during this year, built and delivered 8 steel steamships of the single deck type, with poop, bridge and forecastle, and approximate capacity, including bunkers, of 3,550 tons each. Six of these ships were completed and delivered during the last six months, or at the rate of one a month. The company has under contract for 1920 delivery, 8 ships of a similar type, 2 of which are for Canadian Government Merchant Marine, Ltd., the balance being for private account. Two of the steamships built by this company during this year, viz.: s.s. Hessa and s.s. Skolma, are illustrated in this issue. Full descriptions of these vessels have appeared in previous issues.

Foundation Co., Victoria, B.C.—The contract for building 20 wooden steamships of approximately 3,000 d.w. tons each for the French Government was completed during October, with the launch of the last hull named Nouvelle Ecosse. The contract was entered into in Nov., 1918, and called for ships of the following dimensions: length, overall, 293 ft.; length, b.p., 276 ft.; beam, extreme, 47½ ft.; beam, moulded, 46½ ft.; depth, moulded, 23½ ft.; draft, 21¾ ft.; d.w. capacity, 3,000 tons; displacement, 5,655.5. The ships are of the single deck cargo type, with hulls of pine, hold beams, wood deck houses and rails. They have the cruiser stern, with long poop deck aft, and raised forecastle forward. There are 5 hatches, 4 watertight bulkheads, 1 bunker bulkhead non-watertight, and 1 screen bulkhead. Feed water tanks of full capacity are located aft of the engine room. Accommodation for officers is provided in deckhouse on poop deck and the crew are accommodated in the forecastle. There are 8 cargo winches, one of which is a warping winch, and the windlass of the forecastle head is for handling anchors and is also arranged for warping. The propelling machinery consists of two 550 h.p. vertical inverted, direct acting, 3 crank triple expansion marine engines, supplied with steam by 2 Scotch boilers, with a heating surface of approximately 3,500 sq. ft. for a working pressure of 225 lb. a sq. in. The ships are also equipped with electric lighting plant, and pumping and auxiliary machinery, all according to Bureau Veritas classification. A full description of these ships was given in Canadian Railway and Marine World for Dec., 1918.

Halifax Shipyards Ltd., Halifax, N.S.—As stated in Canadian Railway and Marine World for November, J. F. Paige, General Manager, Port Arthur Shipbuilding Co., Port Arthur, Ont., has resigned to enter the Halifax Shipyards' service as Operating Manager. He will have charge



Steamship Alsace, 8,400 d.w. tons, built for Compagnie Francaise d' Armement d' Importation de Nitrate de Soude, Paris, France, by Canadian Vickers Ltd.

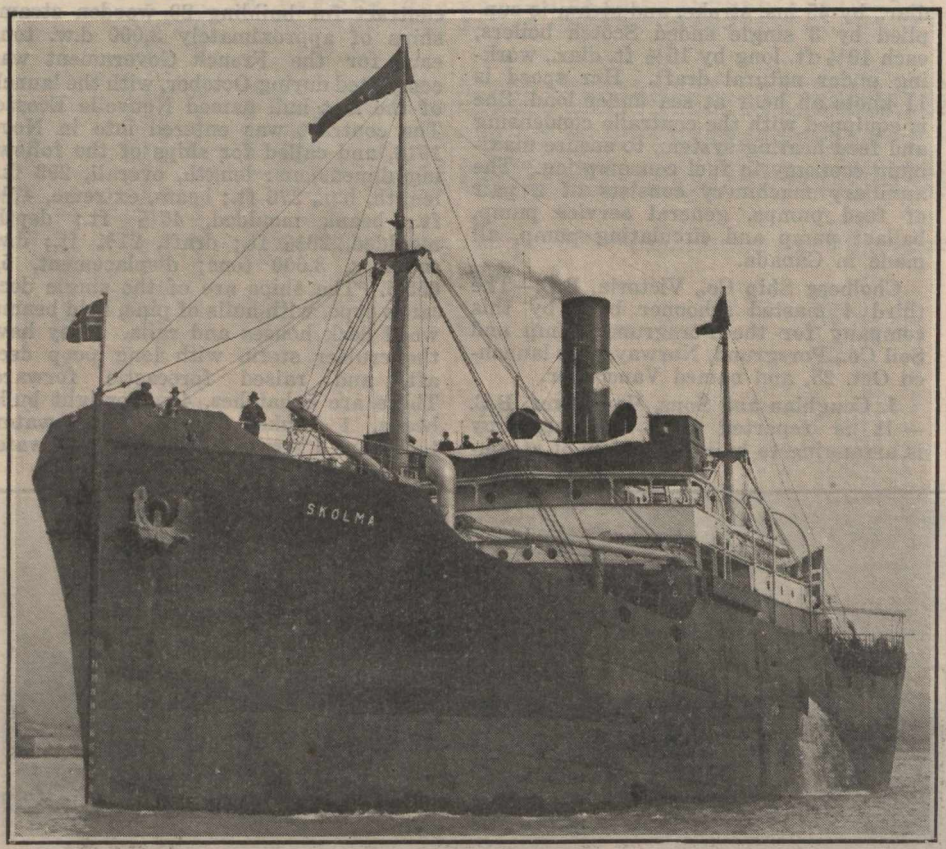
of all the company's operating departments, including new construction and repair work. J. E. McLurg continues as General Manager.

R. H. Howes Construction Co., Meteghan River N.S., launched the s.s. Granville III., at the end of October, for the Valley Steamship Co., to replace the s.s. Granville, which was sold recently to D. Owen and others for an expedition to Labrador. The keel of the new vessel was laid in August, and her machinery was installed when she was on the stocks, so that she was launched practically complete, the boiler alone remaining to be placed.

J. W. Kirkpatrick, Eatonville, N.S., launched the tern schooner J. L. Ralston, Oct. 30. She has been classed for 12 years with Bureau Veritas, and is 462 tons register.

E. LeBlanc and Co., Wedgeport, N.S., launched a 146 ton schooner early in November, which was named W. L. Mackenzie King. Her dimensions are, length, over all, 127 ft.; breadth, 25.2 ft.; depth, 11.6 ft. She was launched fully rigged and ready for sea, and loaded cargo at Yarmouth for the West Indies.

The Wm. Lyall Shipbuilding Co. Ltd., North Vancouver, B.C., is offering for sale its plant and equipment, including machine shop tools, joiners tools, derricks, hoists, boilers, engines, compressors, motors, etc. The yard consists of 6 shipbuilding ways, and was originally operated by Wallace Shipyards, Ltd. The Lyall Co. commenced operation there July 1, 1917, and built several wooden steamship hulls for the British Government, under orders from the Imperial Munitions Board, and later built auxiliary power schooners on its own account and some wooden steamship hulls for the French Government.



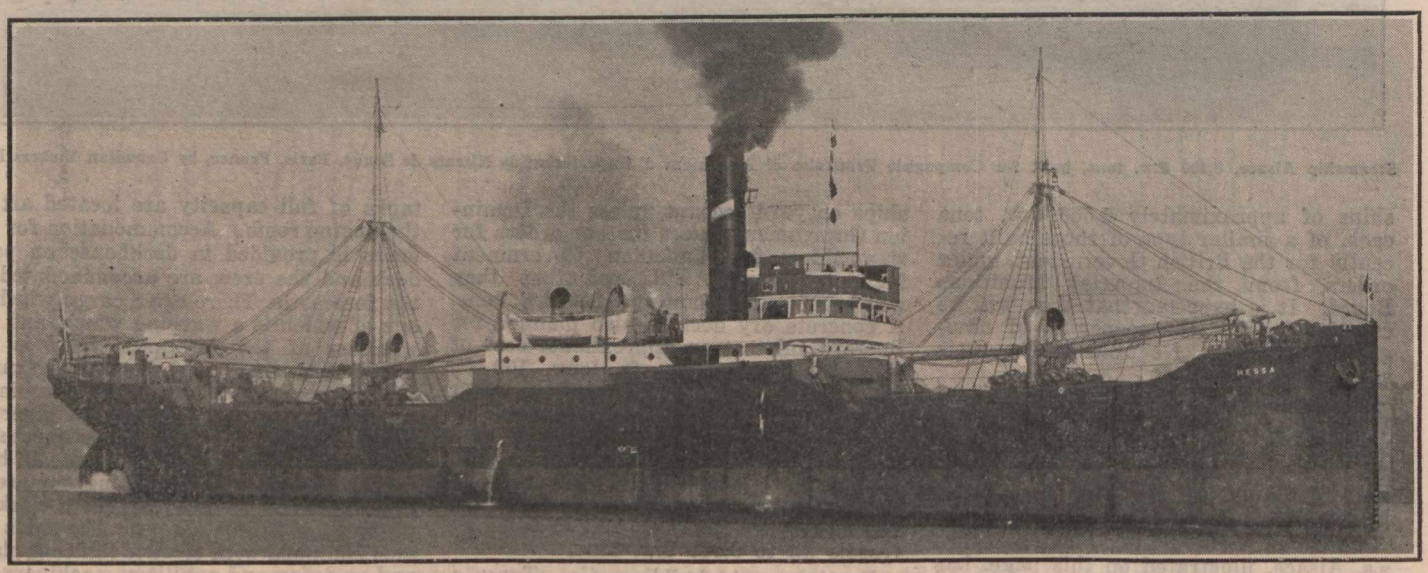
Steel Cargo Steamship Skolma, 3,550 d.w. tons, built by Dominion Shipbuilding Co., Toronto.

Polson Iron Works, Ltd., Toronto—On account of the completion of shipbuilding work, in hand at the time this company went into liquidation, the works were closed down, Oct. 29. Negotiations are being proceeded with for the disposal of the property by private sale, and we are advised that if they are not consummated, the assets will be advertised for sale under a court order.

Port Arthur Shipbuilding Co., Port Arthur—John H. Smith has been appointed General Manager, succeeding J. F. Paige, resigned to enter Halifax Shipyards Ltd. service. Mr. Smith was formerly General Superintendent, and later General Manager, of Western Drydock & Shipbuilding Co. at Port Arthur, being General Manager when the lake freight steamship, W. Grant Morden, and the lake passenger steamship, Noronic, were built by that company. He resigned soon after these ships were complete, and went into partnership with his brother, Allan A. Smith, as Smith Bros., marine architects, surveyors and appraisers, Cleveland, Ohio.

St. John, N.B.—It is reported from St. John, N.B., that a British shipbuilding firm will establish a large shipbuilding and repairing plant in the vicinity of the drydock now under construction at Courtenay Bay, St. John. The Courtenay Bay improvement work, and the construction of a drydock there are being carried out by the St. John Drydock and Shipbuilding Co., and it was announced some time ago that that firm intended laying out shipbuilding and repairing yards there.

St. Lawrence Dock and Shipbuilding Co. Ltd., has been incorporated under the Dominion Companies' Act with $100,000 authorized capital and office at Levis, Que., to buy in whole or in part the shipbuilding and repairing businesses carried on there by the National Shipbuilding Co. td., and by W. H. Hutchinson, Goderich, Ont., and C. A. Chauveau, Quebec, Que. The incorporators are: W. H. Hutchinson, Goderich, Ont., C. A. Chauveau, A. Marshand and A. Rivard, Quebec, Que., and C. H. Carrier, Bienville, Que. The company is said to have secured several shipbuilding orders.



Steel Cargo Steamship Hessa, 3,550 d.w. tons, built by Dominion Shipbuilding Co., Toronto.

Shelburne Shipbuilders Ltd., Shelburne, S., launched the tern schooner Donald II at the end of October, for W. and T.

Hollett, Burin, Nfld. She is 230 tons register and has been classed for 12 years in Bureau Veritas.

Vancouver, B.C.—An unconfirmed Vancouver press dispatch says:—It is understood that David Rodgers, formerly Superintendent of the Skinner & Eddy shipbuilding plant at Seattle, will manage a large ship construction undertaking here. He is now on his way to Europe to obtain orders for ships. He is supported by $12,000,000 of United States capital, and his company already has a number of contracts closed, but wishes to have an assurance of two or three years work before they actually commence operations. Their plant will be located on a 160-acre plot on the north shore of Burrard Inlet, opposite the second narrows.

Yarrows Limited, Victoria, B.C.—The steel ferry, which this company is building for the British Columbia Government, as mentioned in our last issue, will be of the double ended type, arranged for carrying automobiles and farm produce on deck. The dimensions of the hull will be: length, 90 ft.; beam, 26 ft.; depth, 5 ft. The propelling machinery will consist of two 80 h.p. 6 cylinder, 4 cycle internal combustion engines, and the ferry will be equipped with 2 propellers at each end, connected to the engines by clutches, the engines being arranged to drive the ferry in either direction with the forward propellers idle. The ferry will be completely equipped by the builders, except for the engines, which will be installed at New Westminster.

Canadian Hydrographic Officers' War Services.

G. J. Desbarats, C.M.G., Deputy Minister of Naval Service, has authorized the publication of the following information prepared by W. J. Stewart, Chief Hydrographer of the department, in connection with the service of Dominion Government hydrographic officers with the Admiralty during 1918-1919:

In Feb., 1918, the Naval Service Department learned that the British Admiralty Hydrographic Office was rather short of surveyors and advised the Hydrographer, Admiral Parry, that if necessary, the department could spare some of its staff from the hydrographic survey, for service in connection with the war. This offer the Admiralty gladly accepted and granted commissions in the R.N.V.R. to R. J. Fraser, J. L. Foreman, L. C. Prittie, M. A. MacKinnin, C. G. Smith, and W. K. Willis.

O. R. Parker, who was a Royal Naval Reservist before the war, was put in general service and later appointed to H.M. S. Endeavour, in the Mediterranean. After considerable service there he was transferred to home waters and served in the Straits of Dover on the surveying trawler Esther, and after the armistice to service mine clearing off the Yorkshire coast. He returned to Canada in Aug., 1919.

C. G. Smith, originally with the Canadian Expeditionary Force, and after transfer to the Admiralty Surveying Service, was employed at various points off the English and Scottish coasts, in connection with harbor improvement and aids to navigation demanded by the war. He also saw service on surveying ships mine laying.

L. C. Prittie was appointed to H.M.S. Endeavour in the Mediterranean, operating in the vicinity of Malta. After the collapse of the Turks, they were ordered to the Aegean and later to the Dardanelles, where they prepared an anchorage and laid moorings for the allied fleets off Constantinople. Just previous to this service the commanding officer of the Endeavour was killed on some special duty. Mr. Prittie also saw service on the Egyptian and Palestine coasts and returned to Canada in the early summer of 1919.

J. L. Foreman was appointed to H.M.S. Hearty, engaged in the lengthy and difficult re-survey work in the waters of The Wash on the east coast of England. Later the ship and party were transferred to the Scottish coast, working out of Inverness and Aberdeen. He returned to Canada in the spring of 1919.

M. A. MacKinnin went overseas originally with the Canadian Expeditionary Force and was transferred early in 1918 to the Admiralty surveying service employed in the Firth of Forth.

R. J. Fraser was at first attached to H.M.S. Osea coastal motor boat base on the Essex coast, as Assistant Surveying Officer to Lieut. Commander Maxwell, R.N. During the summer of 1918 he was appointed to the submarine boom defence at Brigthlingsea and put in charge of surveying in the Thames Estuary until the armistice was signed. In Nov., 1918, he and Mr. MacKinnin were appointed to the newly commissioned surveying ship Melisande and worked throughout the winter and spring at Folkestone in the Straits and the Medway River, surveying channels and mooring berths for the laying up of the Nore reserve fleet, and sounding out the Thames Estuary. In June, 1919, they were appointed to H.M. S. Kellett, the first of the new class of surveying ships designed to replace the ancient vessels still in service. They joined their ship on the Clyde and proceeded to Chatham, where the ship was prepared as an exhibit for the visit of the inter allied conference of hydrographers July 1. They made a survey of the approaches to Chatham dockyard, in connection with the berthing of the Queen Elizabeth class of battleships. They returned to Canada on the completion of this work.

W. K. Willis went overseas in Nov., 1918, there still being a shortage of trained Admiralty surveyors. He was appointed to H.M.S. Hearty and worked off the east coast of England and Scotland in connection with the mine clearance work in these waters returning to Canada in July, 1919.

Much valuable experience was gained by all the Canadian surveyors whilst employed with those of the Royal Navy. Besides being surveyors, they had at all times the many responsibilities of watch keeping officers, both at sea and in harbor, and quite often were in sole command of their respective ships. The interchange of ideas and insight into the methods of working and the standards of accuracy adopted by the surveyors of the two countries will go far in the future towards a clearer understanding of each others work.

Frauds by Stevedores—A Montreal press dispatch states that a system of defrauding the Wheat Export Co. has been uncovered at Montreal in connection with the improper handling of grain used for trimming vessels.

United States Shipping Board Notes.

The board has issued a statement that its fuel stations will soon girdle the world, and that U.S. steamships will be able to make a world circuit without needing to take fuel at other than U.S. owned fuel stations.

The House of Representatives' merchant marine committee, on Nov. 5, completed a bill for the disposition of the government merchant marine fleet, providing for continuation of the U.S. Shipping Board as a regulatory body, and prohibiting sale to foreign interests of ships needed in the U.S. fleet.

The German s.s. Vaterland, owned formerly by the Hamburg American Steamship Co., and seized by the U.S. Government during the war, has been handed over to the United States Shipping Board for operation, after having been used by the navy since April, 1917, as a troop transport. She has been docked at Hoboken, N.Y., to be re-equipped after her war service, and it is said that she will be placed in the Atlantic passenger trade.

The U.S. Chamber of Commerce has submitted to its 1,236 member organizations, its ocean transportation committee's report, recommending that Shipping Board ships, under 6,000 d.w. tons, be sold both to U.S. and foreign bidders; that ships over 6,000 tons be restricted to U.S. registry for a period of years, to protect U.S. ship owning interests, and that the government absorb the difference between cost and sale price of 2,000 ships owned by the board.

A. Washington, D.C., press dispatch of Nov. 20, stated that U.S. Shipping Board officials had announced that the former German s.s. Imperator would be tendered to Great Britain immediately, thus disposing of a controversy as to the future of this vessel. Action with regard to 7 other German steamships had not then been determined, it being deferred pending the final disposition of the tank steamships, U.S. owned, but which had been operating under the German flag, and which are now held by Great Britain.

C.G.S. Champlain, the Acting Minister of Marine stated in the House of Commons, Nov. 10, in answer to an enquiry that the government had received a demand from the Gulf of St. Lawrence Shipping & Trading Co., to charter the C.G.S. Champlain to the company, but the Marine Department had no present intention of chartering, or selling, the ship. In answer to an enquiry as to the government's intention in regard to the operation of a line of steamships by the government between Murray Bay and Tadoussac, the acting minister stated that the C.G.S. Champlain was then operating on that route.

In connection with the foregoing, we are advised that the C.G.S. Champlain, formerly running between Riviere Ouelle, Ste. Irenee, Murray Bay and Cap a l'Aigle, has had her service extended to Tadousac calling at way ports, and that she will be run on a tri-weekly service in conjunction with railway service from Murray Bay to Tadousac.

The C.P.R. s.s. Minnedosa, 13,972 tons, was the largest ship which received Lloyd's classification during 1918-1919. She was fitted with a combination of reciprocating and turbine engines.

Atlantic and Pacific Ocean Marine.

The Osaka Shosen Kaisha s.s. Borneo Maru, reopened its regular service from Japan to Vancouver during October, the service having been interrupted by the war.

The British steamship Winnipeg, from Victoria, B.C., for Queenstown, Ireland, was reported disabled off the west coast of Ireland, Nov. 9. She was towed into Queenstown for repairs.

Canadian Pacific Ocean Steamships' s.s. Melita has been requisitioned by the British Admiralty to carry troops to India. This is the only C.P.R. steamship now under government requisition.

The Red Star Line announces that it will resume its sailings between New York and Antwerp, Belgium, via Southampton, Eng., Dec. 11. This will be the first of this line's sailings on this route since the occupation of Belgium by the Germans in 1914.

The British s.s. Rio Neigero, which grounded on Pointe des Monts, Que., Nov. 17, was examined by divers, but in order to make a more thorough examination, she was taken to the Davie Shipbuilding and Repairing Co.'s drydock at Lauzon, Que., Nov. 20.

The British s.s. Germanicus, owned formerly in Germany and latterly operated by the British Ministry of Shipping, ran ashore, Nov. 7, near Father Point, Que., and was reported to be in bad condition. She was built in 1901 at Stockton-on-Tees, Eng., for German owners.

The Grecian s.s. Platea, which was wrecked on Sable Island, early in November, is believed to be a total loss. She was owned formerly by Wm. Thomson and Co., St. John, N.B., and was built at Glasgow, Scotland in 1897. She was bound for Montreal, light, for a cargo for Greece.

A direct steamship service between Vancouver, B.C., Marseilles, France, and Genoa, Italy, was inaugurated early in November with the sailing of the Mont Cenis, a 4,900 ton ship operated by La Societe Generale de Transport Maritimes a Vapeur, for which Dingwall Cotts and Co. are local agents.

The Canadian Robert Dollar Steamship Co. which is reported to have bought frontage on the East River, New York, intends inaugurating a steamship line between New York and Shanghai, China, via the Panama Canal. Two steamships will be placed on this service for the present, and it is expected that a call will be made at San Francisco. This service will be additional to that operated across the Pacific by this company from Vancouver.

A London, Eng., press dispatch of Nov. 10, states that the British Parliament is to be asked to grant powers to make Galway on the west coast of Ireland, a trans-Atlantic port, which would thus reduce the sea passage between Canada and the United Kingdom by about 700 miles. It is said that in addition to the harbor works, the project involves the construction of a tunnel about 30 miles long between Ireland and Scotland, or the operation of a train ferry, so that passengers may be carried from Ireland to points in Scotland and England without transshipping. This matter has been under consideration for several years.

The s.s. Polar Land, owned by the United States Shipping Board, and operated by the West India Steamship Co., foundered off Sable Island, about 600 miles from Halifax, N.S., Nov. 9, when outbound to Genoa, Italy. She was towed into Halifax, and after being repaired, again sailed on Nov. 2. Wireless calls were received at Cape Sable station, and were picked up by the steamships Kanawha and Strathfillan, bound for London, Eng., and New York, respectively, and both vessels proceeded to the point indicated, but before reaching it, a further wireless message was received, to the effect that the vessel was sinking and had been abandoned, the crew taking to the boats. No trace of the vessel was discovered, nor have any of the boats or members of the crew been found.

Maritime Provinces and Newfoundland.

The steam tug Merrimac, owned by G. S. Campbell and Co., Halifax, N.S., was sunk in the harbor, Nov. 9, when she was struck by the s.s. Mesaba, which she was towing out of a berth.

Six U.S. steam tugs arrived at Halifax, N.S., Nov. 12, from the Great Lakes en route to U.S. ports for harbor use. They were built by the U.S. Government for use as mine layers for war purposes, but will now be diverted to peace time use.

The longshoremen at St. John, N.B., ceased work early in November on a demand for an increase in wages to 80c an hour. An offer of 65c an hour by the companies was declined, and on Nov. 15 a compromise was made, and a new rate of 70c an hour decided upon.

The s.s. Lady Evelyn, owned formerly by the Dominion Government, and operated latterly between Pictou, N.S., and the Magdalen Islands, by the St. Lawrence Navigation and Transportation Co., ran aground on a reef near Pictou Island, Nov. 13. She floated off without assistance, a little later, and it is reported was undamaged.

The two attendants at the lighthouse on Big Island, about 70 miles from Quebec, were reported to have been drowned while crossing from the lighthouse to the main land, during a gale in the early part of November. Complaints had been received that the light had not been burning for three nights, and an investigation by government officials found no one in charge at the lighthouse and the boat used by the men to get ashore was discovered upturned on the beach at Riviere Ouelle.

The litigation in connection with the collision of the steamships Premier and D. J. Purdy, in the St. John River, on Oct. 5, 1918, was concluded, Nov. 8, on an appeal from the New Brunswick Admiralty District Court to the Exchequer Court of Canada. The original judgment found both vessels to blame and condemned the s.s. D. J. Purdy to pay to the s.s. Premier one-half of the damages claimed. An apppeal and a cross appeal were entered, and final judgment was given Nov. 8, in favor of the s.s. Premier, allowing its appeal, and dismissing the cross appeal, both with costs.

Provinces of Quebec Marine.

A contract for repairs to the Public Works Department's dredge, no. 106, has been awarded to A. Lacouture, Sorel, Que.

Canada Steamship Lines' s.s. Malton ran on the rocks, near Lachine Rapids, early in November, through the breaking of the steering gear.

The Webster Steamship Co.'s s.s. Howard W. collided with the s.s. Lakeport in Coteau Lake, Oct. 30, both vessels being considerably damaged.

A Quebec press report states that a wharf to accommodate three ocean going steamships is being built at Baie des Ha Ha, which is considered as a step towards making a winter seaport in the province.

The corner stone of the Sailors' Memorial, erected by Montreal Harbor Commission at Victoria Pier, Montreal, was laid by the Prince of Wales, Oct. 31. He was given a card tray, made of Canadian gold, commemorating the occasion, on behalf of the Harbor Commissioners by W. G. Ross, Jr., the young son of the President of the commission.

Canada Steamship Lines Ltd., closed its Saguenay service, Nov. 1, when the s.s. Murray Bay made the last trip for the season. The steamships Quebec and Saguenay were scheduled to complete their season's service between Montreal and Quebec, about Nov. 28. The traffic on these routes was heavier this year than for several years past.

The Montreal Sand and Gravel Co.'s steam tug, St. Louis, sank in 30 ft. of water in Lake St. Louis, near Beauharnois, during a storm, Oct. 29. She was built at Buffalo, N.Y., in 1875, and practically rebuilt at Montreal in 1907, and was valued at $20,000. She was screw driven, by engine of 24 n.h.p., and had the following dimensions, length, 69.4 ft.; breadth, 15.8 ft.; depth, 7.2 ft.; tonnage, 56 gross, 35 net.

Ontario and the Great Lakes.

The Public Works Department received tenders to Nov. 29 for rebuilding the dam at Lakefield on the Trent Canal.

Canada Steamship Lines Ltd. has bought the s.s. Nipigon from U.S. owners, and has had her name changed to Maplehill, and registered her in Canada.

The C.P.R. s.s. Athabasca was docked at Collingwood, Nov. 10, for repairs made necessary by the ship touching bottom on a shoal in Lake Superior, several plates being damaged.

The International Ferry and Ry. Co.'s franchise for ferry service between Fort Erie, Ont., and Buffalo, N.Y., expires May 1, 1920. Negotiations are proceeding for a renewal of the charter and general improvement of the service.

The Chicago, Duluth and Georgian Bay Transit Co. is reported to have sold the two steamships North American and South American to the Goodrich Transit Co., Chicago, Ill. Prior to the war these ships called at Fort William.

The Hamilton Harbor Board made its annual inspection towards the end of October, after which it was announced that plans for the complete laying out of the harbor properties will be ready in December, and the work commenced early next year.

The Great Lakes Steamship Co., Cleveland, Ohio, has entered action, at Toronto, against the Maple Leaf Milling Co., for $40,516, for damages caused by the latter company's alleged default in unloading the s.s. John Dunn, Jr., at Port Colborne, Dec. 9, 1918.

The s.s. N. J. Nessen, owned in Chicago, Ill., which struck a rock and sank as she was entering the harbor at Meaford, Oct. 17, was raised by a wrecking crew from Midland, after which she left for Collingwood, under her own steam,

where the necessary repairs will be carried out by the Collingwood Shipbuilding Co.

Canada Steamship Lines s.s. Ionic, with a general cargo from Montreal for Hamilton, ran aground in the Morrisburg Canal, Nov. 8, and suffered considerable damage. It is said that she will be floated as soon as possible, but that she will not be operated again this year.

The Dominion Government s.s. Tipperary, a small vessel which was utilized at Port Weller, in connection with the making of a harbor at the entrance to the Welland Ship Canal, was swept from her moorings there, during a storm, Nov. 19, and driven ashore. It is expected that she will be a total loss.

The Toronto Harbor Commission secured the consent of the City Board of Control, Nov. 10, subject to the city council's assent to the issue of $4,000,000 of debentures for harbor development. It was announced that 80% of the amount would be spent on revenue producing projects, and that the amount will be available for expenditure during 1920.

The U.S. Lake Survey reports the stages of the Great Lakes in feet above mean sea level, for October, as follows,—Superior, 602.47; Michigan and Huron, 580.63; St. Clair, 575.39; Erie, 572.50; Ontario, 246.35. Compared with the average October stages for the past 10 years, Superior was 0.15 ft. above; Michigan and Huron, 0.19 ft. above; Erie, 0.42 ft. above, and Ontario, 0.57 ft. above.

The s.s. Homer Warren, owned by Milnes Coal Co., Toronto, foundered during a storm, near Sodus Point, N.Y., Oct. 28, the crew of 9 being lost. She was a wooden vessel built in 1863, and was originally named Atlantic. She was rebuilt in 1900, and considerable repairs were made in 1911. Her dimensions were, length, b.p., 176½ ft.; breadth, moulded, 30 ft.; depth, moulded, 12 ft.; tonnage, 448 gross, 281 net. She was equipped with a steeple compound engine, with cylinders 21 and 42 in. diar., by 36 in. stroke, supplied with steam by a Scotch boiler 11½ x 13 ft. at 130 lb. She was owned originally in Saginaw, Mich., and was bought by the Peninsula Tug & Towing Co., of Wiarton, Ont., and later passed to the Milnes Coal Co.

British Columbia and Pacific Coast.

The C.P.R. is reported to be contemplating buying a steamship for the British Columbia Coast Service, to replace the s.s. Princess Sophia, which was lost in the Lynn Canal about a year ago.

Lumber shipments from British Columbia to Europe continue high; it being stated that about 12,000,000 ft. is en route to England, and that a further 40,000,000 ft. will be on the way before the end of the year.

C. H. Nicholson, Manager, Grand Trunk Pacific Coast Steamship Co., is reported to have stated, in connection with rumors, that the company would place its larger vessels on the Alaska run next year, that it has no intention of entering the Alaska tourist service.

Plans are reported ready for the construction of new offices for the Dominion Marine Department on the Songhees Reserve, Victoria. It is said that the building will cost between $50,000 and $100,000 and that work will be commenced as soon as there is some assurance that the Johnson St. bridge will be built.

British Shipping Losses During the War.

The Deputy Minister of Marine, Alex. Johnston, has issued the following statement:—

British merchant ships lost by enemy action during war, 2,479; gross tonnage, 7,759,090. British merchant ships destroyed by submarines, 2,099; gross tonnage, 6,635,059. British merchant ships destroyed by mines, 259; gross tonnage, 673,417. The remainder were sunk by torpedo boats, air craft, etc. Lives lost on foregoing, 14,287. Fishing vessels lost, 675; gross tonnage, 74,765. Lives lost on these, 434. Ships damaged but not sunk, 1,885; gross tonnage, 8,007,967. Lives lost on these, 592.

Losses of Canadian merchantmen, which are included in the total of British losses have not yet been segregated.

Against these losses the net merchant tonnage launched in the United Kingdom, for British owners, was: 1915, 374,000 tons; 1916, 386,000 tons; 1917, 752,000 tons. The launchings in Great Britain for foreign owners were: 1915, 36,000; 1916, 38,000, and 1917, 20,000 net tons.

World Shipbuilding Statistics.

The world's shipbuilding activities for the third quarter of 1919 include the building of 2,328 vessels, aggregating 8,048,592 tons, excluding Germany. In the United Kingdom there are vessels aggregating 2,816,733 tons under construction, an increase of 293,000 tons over the record for the preceding quarter. The United States ranks first in the extent of work under way. Japan, Holland and Italy, including Trieste, exceed Canada. Including approximately 87,000 tons for other British Dominions, the category under which Canada is placed ranks next to Great Britain, with a tonnage of 308,465. Canada's record for the quarter shows that 23 vessels with a total tonnage of 53,833 were being built on the Great Lakes. Coast shipbuilding amounted to 29 steel vessels with a total tonnage of 108,020, as well as 49 wooden steamships with a total tonnage of 48,950, and 26 wooden sailing vessels with an aggregate tonnage of 10,745.

Contracts Let for Marine Public Works.

The Dominion Public Works Department has let the following contracts:

Island of Orleans, Que.; repairs to wharf; Nap. and Jos. Trudel, Ste. Irenee, Que.; Oct. 31; schedule of prices.

Pointe Pizeau, Sillery, Que.; repairs to wharf; Jos. Gosselin, Ltd., Levis, Que.; Oct. 20; unit prices.

G. S. Tyrian; repairs; T. Hogan & Co.; Halifax, N.S.; Oct. 30; $19,890.

Naramata, B.C., construction of wharf; Sam Mills, New Westminster, B.C.; Nov. 3, 1919; schedule of prices.

St. John, N.B.; dredging in deep water berths; J. A. Gregory, St. John, N.B.; Nov. 4; class B, 33c per cu. yd. (scow).

Notre Dame des Sept Douleurs, Que.; extension to wharf; N. Letourneau and J. A. Fortier, Montmagny, Que.; Nov. 6; schedule of prices.

Vancouver Dry Dock Proposals—In addition to the three applications to the Dominion Government for aid in the construction of dry docks for Vancouver harbor, particulars of which were given in Canadian Railway and Marine World for November, pg. 621, it is stated that a proposal to build a floating dry dock of 12,500 tons capacity in Vancouver harbor is under consideration by interests in Seattle, Wash. It is stated that the dock will consist of 6 wooden pontoons, with steel wings, and cost approximately $550,000. It is said that a company will be formed for the purpose, by a union of Puget Sound shipbuilding concerns, and that financial assistance will be asked of the City of Vancouver.

International Mercantile Marine.—A press dispatch from London, Eng., Nov. 24, stated that control of the International Mercantile Marine Ltd., had been placed in British hands, by the decision of the directors to ratify an agreement with the British Admiralty and the Board of Trade, whereby it is made compulsory that British subjects shall manage the company's general business and vessels, and that the directors shall be British subjects and residents in the British Empire. It is also stated that in future the names of directors are to be submitted to the British Government for approval.

Sault Ste. Marie Canals Traffic.

The following commerce passed through the Sault Ste. Marie Canals during October, 1919:

ARTICLES.		Can. Canal	U.S. Canal	Total
Eastbound.				
Lumber	m. ft. b. m.	2,488	29,652	32,140
Flour	Barrels	518,660	1,025,850	1,544,510
Wheat	Bushels	3,208,846	19,043,350	22,252,196
Grain, other than wheat	Bushels	2,915,256	1,435,803	4,351,059
Copper	Short tons	3,242	7,894	11,136
Iron Ore	Short tons	44,352	6,015,098	6,059,450
Pig Iron	Short tons	125	.....	125
Stone	Short tons	1,800	5,800	7,600
General Merchandise	Short tons	1,883	9,242	11,125
Passengers	Number	358	47	405
Westbound.				
Coal, soft	Short tons	12,475	1,836,036	1,848,511
Coal, hard	Short tons	.....	498,505	498,505
Iron Ore	Short tons	.....	54,573	54,573
Mfd. Iron and Steel	Short tons	1,307	3,823	5,130
Salt	Short tons	1,358	10,537	11,895
Oil	Short tons	.....	53,859	53,859
Stone	Short tons	.....	110,001	110,001
General Merchandise	Short tons	28,317	40,008	68,325
Passengers	Number	309	15	324
Summary.				
Vessel passages	Number	439	1,810	2,249
Registered tonnage	Net	595,981	6,099,442	6,695,423
Freight—				
Eastbound	Short tons	265,336	6,797,784	7,063,120
Westbound	Short tons	43,457	2,607,342	2,650,799
Total Freight	Short tons	308,793	9,405,126	9,713,919

German Steamships Interned in South America to Be Repaired in Germany Instead of in Canada or the United States.

London, Eng., Oct. 26.—Further details of the story of the award by the Ministry of Shipping of a contract for the repair of 33 German steamships interned in South American waters to the Germans have come to light. They show that this decision was a very important one indeed, and one which sacrifices not only the interests of a Canadian company, but interests of Canada itself. The story as first told to the Montreal Gazette correspondent by a member of the Anderson Co., of Montreal and New York, made it appear that the company would be the only one to benefit if the offer to repair the vessels at cost plus $5 a ton was accepted. It now develops that a prior proposal of the company was to purchase the steamships for $30,000,000, the purchase money to be used as credit in Canada for the supply of foodstuffs to Germany, and some of the vessels to be allocated to Canada to augment her merchant marine. The German owners were willing to accept the offer on the first condition. The proposal was made shortly after the armistice, when Canada sadly needed the ships, and the Canadian Government therefore recommended it to the British Government, attaching a condition regarding the use of 10 ships for the Canadian Merchant Marine.

J. H. Anderson, a Canadian, and head of the company, appeared before the Ministry of Shipping under these auspices. He had sounded other allied governments regarding the plan and obtained their sanction. It only remained for Britain to consent. Canada's part in the negotiations was prompted solely by a desire to obtain extra tonnage for relief of her export trade, which was very badly needed at the time. It is said Premier Borden had personally interested himself in the matter for this reason. The Ministry of Shipping, however, flatly refused the offer. It is said the chief reasons were that it had been decided the ownership of the ships was still vested in Germany and that the allocation of German merchant tonnage had already been made. These arguments are rather remarkable since the German owners are willing to sell and the other allied governments are favorable to the Anderson Company's offer. It was after this refusal that Anderson made a new offer to repair the vessels and which, in turn, was rejected in favor of German interests.

The Anderson Company acted for the French Government during the war for the purchase of tonnage in America and also for the United States Shipping Board, as well as for the British Government. A precedent for the purchase of enemy shipping had also been established in 1917, when the U.S. bought Austrian and German ships. In any case, the second Anderson proposal for the repair of the ships seemed clearly a feasible one, which would place this particular tonnage at the disposal of Britain, and, as a Canadian, recommended by Canada, it might have been expected that the contract should be given to him, or at least his claims given priority over the enemy countries. It is also stated that the time taken, according to the German plans, to reconstruct this service will be greatly in excess of that of the Anderson Company, according to the particulars of the plans of repairs as covered by their proposal. The cost of these repairs, under the arrangement with Germany, cannot be much less than proposed by the company, inasmuch as the proposal called for on a basis of actual cost for all repairs and the company asked only $5 a ton to cover its outstanding expenses.

London, Oct. 30.—The Ministry of Shipping's reasons for awarding the contract for the repair of 33 German ships interned in South American waters to Germany instead of a Canadian firm were given to the Montreal Gazette's correspondent today by T. Lodge, Secretary of the Ministry. The statement contained one new point, that the vessels are to be towed all the way to Germany for repair. Its essence was that Britain did not wish to allow the purchase of the vessels in the interest of Canada because under the peace treaty it was expected these ships would be allocated to the United Kingdom, and in the second place, they did not consent to the repair of the vessels by a Canadian firm because it was considered the Germans could do the work better. As an allowance for the value of the vessels is to be made Germany, according to Mr. Lodge's statement, even though Britain is allocated them, and as the cost of the towing the vessels to Germany will be greater than the cost of repair in United States ports under the Anderson plan, it can scarcely be said an adequate case has been made out against a year's delay involved in the present arrangement, and the whole thing looks like a striking example of bureaucratic ineptitude.

Mr. Lodge said he was not acquainted with the first offer made by Anderson for the purchase of the ships. "However," he said, "it is easy to see that under the circumstances the British Government could not have authorized the sale of German ships to anyone. They were not our ships, they belonged to Germany."

"But were not the Germans willing to sell?" the correspondent asked.

"The Germans would have been glad to sell all their ships, but it was not in Great Britain's interests to allow it, inasmuch as we stood to gain a large portion of this tonnage under the peace treaty," the Secretary replied.

"But is not Germany to receive something in return?" he was asked

"Yes, their value will be allowed for," was the reply.

As to the offer of the Anderson Company to repair the ships, for cost, plus $5 a ton, Mr. Lodge said an agreement had been arrived at between the allies for the repair of the German ships in the Dutch West Indies by the British, in Spain by the French, and in South American waters by the United States. Most of the vessels allocated under the first two heads had been repaired, but the U.S. had done nothing with the ships in Chile and Argentina. Two months ago the responsibility for these ships was transferred to Britain. As the Germans were responsible for putting other of their tonnage in shape under the peace treaty, the Ministry thought it wise to include the South American ships. They will be towed to German ports and there repaired.

"But will that not be a very expensive proceeding?" the correspondent asked.

"The Germans who owned these vessels should be able to repair them," Mr. Lodge replied. "We will get the ships under the same conditions as the others regarding carrying foodstuffs to Germany."

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The Toronto Harbor Commission's Work.

The following summary of what the Toronto Harbor Commission has done since 1912 at a cost of $9,764,800, has been given out:—

Acquired 257.5 acres of water lots by patent from Dominion Government.

Acquired 4,700 feet of frontage of riparian or water-frontage rights between Bathurst and York Sts.

Reclaimed 1,057 acres of waterlots and marsh lands, requiring handling of 16,000,000 cu. yds. of material, divided as follows: 11,000,000 cu. yds. for business and industrial properties, and 5,000,000 cu. yds. for park purposes.

The above yardage reclaimed 272 acres of park lands and 785 acres of business and industrial properties.

Built 13,000 ft. of approximately 2½ miles of commercial dock walls. With the exception of the Don retention walls, all of this work is in the inner harbor.

Built in the eastern harbor terminals—11,630 ft. of sidewalk, 9,350 ft. of concrete pavement of various widths, 9,500 ft. of storm sewers from 12 in. to 42 in. in diameter 4,500 ft. of storm overflow sewers, sizes 6 x 18 ft., 6 x 8 ft. and 6 x 16 ft.

Built administration buildings at Bay and Cherry Sts., together with miscellaneous construction buildings.

Built Sunnyside pavilion.

Built 6.6 miles of railway trackage, together with construction plant, such as derricks, scows, tugs, pile drivers, etc.

Acquired property and property rights in eastern harbor terminals.

Maintained harbor and dock properties in eastern harbor terminals dredging channels, sewer outlets, etc.

General engineering, surveys, construction, administration and overhead operating expenses.

Paid interest charges on bonds and sinking fund.

Steamships for Canadian National Railways Pacific Coast Service—An Ottawa press dispatch stated recently that the Minister of Marine has announced that he would call for tenders shortly for 2 new steamships to run on the triangular route between Vancouver, Victoria and Seattle, in conjunction with the Canadian National Rys. and in competition with the C.P.R., and that they would be 50 ft. longer than the C.P.R. ones, and several knots faster. It appears that this report may by, at the least, somewhat premature. The question of obtaining steamships to operate in connection with the C.N.R. on the Pacific coast has, no doubt, been under discussion, but as far as can be ascertained no decision has been arrived at. When the G.T. Pacific Railway becomes a portion of the Canadian National Rys. system, the G.T. Pacific Coast Steamship Co.'s ships, Prince Albert, Prince George, Prince John, and Prince Rupert, now operating between ports from Seattle on the south to Prince Rupert on the north, company's motorship, Tillamook, and its tug, Lorne, will come under the C.N.R. management.

The Dominion Government's Policy as to the Shipbuilding Industry's Future.

The Ottawa Journal, which is a Union Government supporter, said on Nov. 19 as follows:—"During the next week the government is likely to consider closely the question of its shipbuilding policy. The two ministers most interested are, naturally, the Minister of Marine, who has been responsible for the government's shipbuilding policy; and the Minister of Finance, who will have to provide the funds necessary for carrying it out. The government, so far, has built, or has under contract, over 50 ships. Some 12 or 15 of these are completed; and before the first of the year 10 or 12 more will be ready for sea. They are on various trade routes in all parts of the world and the government is well satisfied with the result. They have opened up business for Canada at a time when there was a world shortage of shipping; and it is estimated that the vessels will all have paid for themselves in three years time, if rates continue near to their present height.

"The question now arises as to future construction, and a continuation of the policy of building government owned vessels. It is felt in official circles that the government cannot indefinitely continue its building programme; and that, for the future, it should be a matter of private enterprise. However, with the present high cost of building and uncertainty as to the future, private capital is somewhat timid. This leaves the Canadian shipbuilders in an awkward position. They have built up on both coasts, and on the great lakes a magnificent industry, with a great organization, and it is felt that this should not be allowed to languish. If the government is not going to continue its building policy, and it apparently does not intend to do so, except on a limited scale, the question arises as to what form encouragement to shipbuilding should take in the future. This will be one of the matters under discussion by the ministry during the week.

"The plan of a bonus to the shipbuilding industry has been the one generally advocated; but there are strong objections to such a policy. The farmers particularly are against the bonusing principle in any industry. Two interesting suggestions have been put forward and there is good reason to believe that they will be given consideration by the ministers concerned. One proposal is that the government should assist ship buyers in financing. It is pointed out that in Great Britain there are companies which make a regular business of financing construction by underwriting the bonds of ship owning companies. There are no such facilities in Canada, as the industry is comparatively new. It is suggested that the government might undertake this method of encouraging the industry in preference to bonussing. Another suggestion is that the government should encourage the purchase of ships by private capital, and hence the shipbuilding industry, by allowing a substantial amount annually for depreciation, which should be taken into consideration in estimating business profits in income taxation. It is pointed out that at present the cost of ships is very high. Consequently private capital hesitates to commit itself too heavily in the purchase of vessels, fearing that in a few years hence values will be reduced heavily. In the meantime. it is admitted that while profits will be high, a large share of the same will go to the government. It is proposed, to meet this loss, that the government should allow a certain figure for this depreciation, which would otherwise go to the country in taxation.

"It is understood that the Minister of Marine may shortly call a conference of shipbuilders from both the Atlantic and Pacific coasts to consider the carrying out of the government's shipbuilding policy and also the bonussing of the shipbuilding industry."

We are advised that the Minister of Marine does not contemplate calling such a conference as referred to above, but that shipbuilders have asked for an interview with him and other members of the government in order to urge a bonus for steel shipbuilding.

Sorel Government Shipyard Superintendency.

The Civil Service Commission advertized recently for applications to be sent in by Nov. 24 by residents of the Province of Quebec only, for the position of shipyard superintendent for the government shipyard at Sorel, Que., Marine Department at an initial salary of $3,000 a year. Candidates must have education equivalent to graduation in engineering from a school of applied science of recognized standing; at least 5 years of experience in ship design and construction, 2 years of which shall have been in responsible charge of such work; thorough knowledge of various types of ships and ship machinery and the construction and repair thereof; firmness, tact, good judgment, and ability to manage men; preferably a knowledge of both French and English. No special age limit is fixed for this position, but the appointee must be of such an age as to ensure a reasonable period of satisfactory service after appointment. The successful candidate will be required to perform the following duties: under direction, to have charge of the Sorel shipyard; to be responsible for the design, estimate, construction, and repair of ships; to supervise the buying and safekeeping of stores and stock and the work of all employes, and to perform other related work as required. An examination will be held in education and experience along the lines indicated above. An oral examination of the best qualified candidates will be held, if necessary in the commission's opinion.

The vacancy was caused by the resignation of W. S. Jackson, who was appointed Superintendent, May 12, 1912.

F. A. Willsher, Assistant Naval Constructor, of the Marine Department, at Ottawa, has been acting as Superintendent.

The Head Lines s.s. Melmore Head, which left Montreal, Nov. 21, light, developed turbine trouble in the St. Lawrence, and was delayed at Quebec for four or five days making temporary repairs, after which she left under escort for Halifax, N.S., where permanent repairs were carried out, after which she proceeded to St. John, N.B., to take on a general cargo for Belfast, Ireland.

Exemption of Pacific Coast Shipping From Pilotage Dues.

The Canada Shipping Act, Revised Statutes of Canada, 1906, chap. 113, provides in sec. 477, what ships shall be exempted from compulsory payment of pilotage dues. Bill 42, passed by the Dominion Parliament at its recent session, provides further exemptions, by adding the following paragraph to the Canada Shipping Act, sec. 477, subsec. 1.

"(h) Ships registered in Canada employed in voyages between any port in the Province of British Columbia, and the port of San Francisco, or any port of the United States of America on the Pacific, north of San Francisco, and between any port in the Province of British Columbia and any port in Alaska."

On the motion for the second reading of the bill in the House of Commons, the acting Minister of Marine, Hon. A. K. Maclean, said: "The bill is to enable Canadian registered shipping operating between British Columbia and United States ports as far south as San Francisco, and sailing as far north as Alaska, to be relieved of pilotage. We are simply giving the shipping owned in British Columbia the same relief that years ago was given to Nova Scotia and New Brunswick and later to Quebec and Ontario shipping. As a matter of fact, the law has been evaded for many years in British Columbia, and the class of shipping to which this bill refers has not paid any pilotage.

Exchange on Freight Charges on Canadian Goods Collected in Great Britain.

Ottawa press dispatch, Nov. 5.—The practice of shipping companies in Montreal, in applying the New York rate of exchange for determining freight charges collected in Britain on goods shipped from Canada, has brought a protest from the Canadian Trade Commission. The commission points out that British importers naturally believe Canada should be independent of the United States in these matters, and has asked the shipping companies to apply the Canadian rate of exchange. This would mean a saving of about 16c in the pound sterling, representing the 4% premiums enjoyed in this country. The Canadian Government Merchant Marine Ltd., has already adopted the Canadian rate of exchange. It is now hoped that the Shipping Conference will take similar action.

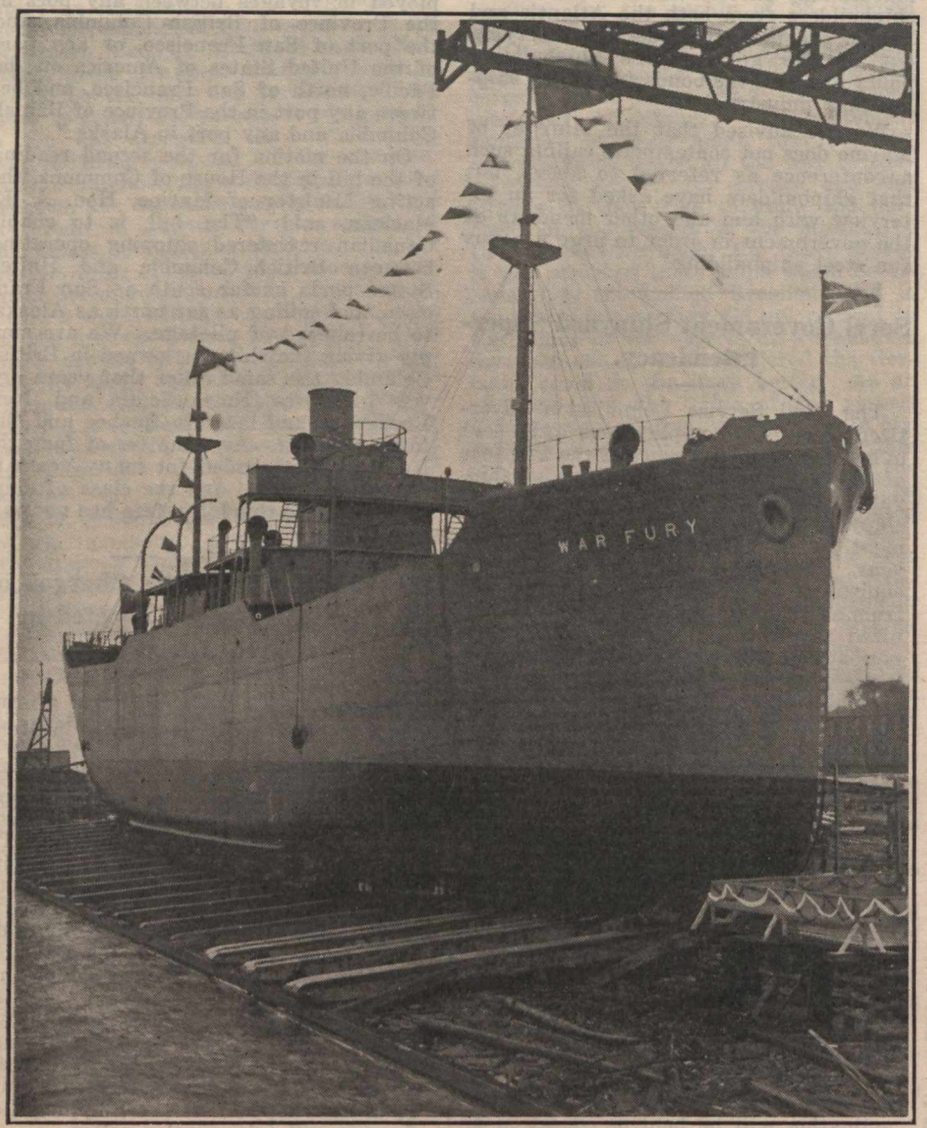
Esquimalt Drydock—As stated in Canadian Railway and Marine World for November, a Victoria, B.C., press dispatch of Oct. 16, said that, following negotiations which had been in progress for several weeks, Skinners Cove, Esquimalt, had been selected as the site of a drydock to be built by the Dominion Government, and we pointed out that we had previously been advised that the government in 1914 had acquired a site at Langs Cove, Esquimalt, for the purpose of erecting a drydock of the first class. Langs Cove is at the northeast corner of Esquimalt harbor, and Skinners Cove, where it is said the new drydock will be located, is adjacent to it. We are advised that the reason given for changing the site is in order to obtain a rock foundation for the keel blocks and also to secure a better entrance.

Cargo Shipbuilding in Canada for British Government.

Steamships War Hamilton and War Hydra, built by Polson Iron Works, Toronto, for the British Government, under order from the Imperial Munitions Board, have been sold to the Mount Royal Steamship Co., Montreal, and their names have been changed to Belchers and Baffin, respectively. They are of approximately 3,500 d.w. tons each. The War Hydra was launched Oct. 15, 1918, and the War Hamilton, Dec. 21, 1918. The latter was originally named War Aquila.

Canadian Allis-Chalmers, Ltd., Bridgeburg, Ont.—The 2 steel steamships, War Magic and War Vixen, built for the British Government under order from the Imperial Munitions Board, completed their trial trips on Lake Erie recently. The War Vixen left Bridgeburg Nov. 13 for Port Colborne, where she took on a cargo for Montreal. The s.s. War Magic left Bridgeburg Nov. 20.

J. Coughlan and Sons, Vancouver, B.C. The s.s. War Chariot, which completed her trial trips, Oct. 29, is the last of the ships built for the British Government.



Steamship War Fury, 3,450 d.w. tons for British Government.

The s.s. War Fury, which was launched by the Midland Shipbuilding Co., at Midland, Ont., Oct. 16, and a full description of which appeared in Canadian Railway and Marine World for November, pg. 618, is the last of the steamships ordered by the Imperial Munitions Board to be built in Canada for the British Government. She sailed from Midland, Nov. 1, for Port Colborne, Ont., where she loaded grain for Montreal, and we were advised, Nov. 13, that she was at the latter port, in process of being drydocked for examination.

Mainly About Marine People.

Hon. C. C. Ballantyne, Minister of Marine, and of the Naval Service, who had been absent from Ottawa, since early in the summer, on account of illness, returned there Nov. 4, and resumed his official duties. He received a hearty ovation on appearing in the House of Commons on Nov. 6. He expected to visit the Pacific coast on official business after parliament was prorogued, but will probably not be able to go for some months, possibly not before spring.

J. R. Binning, heretofore Manager, Furness, Withy & Co., Montreal, has been appointed Manager for Canada and Newfoundland, vice J. E. Furness, who has returned to England. Prior to entering Furness, Withy & Co.'s service, he was in the Foreign Freight Department, C.P.R., and resigned in 1898 on his appointment as Assistant Manager, Furness, Withy & Co., Montreal. He occupied that position until 1903, when he was appointed Manager there. He is a director of Canada Steamship Lines Ltd., and Vice President of the Northern Navigation Co., one of the Canada Steamship Line's subsidiaries.

F. Carter-Cotton, who was first chairman of the Vancouver Harbor Board, died in Vancouver, Nov. 20. He went to Vancouver in 1886, and established the News-Advertiser the following year, subsequently occupying several elective positions.

Sir Nathaniel Dunlop, formerly Chairman, Allan Line Steamship Co., died in London, Eng., Nov. 16, aged 89.

M. P. Fennell, Secretary, Montreal Harbor Commissioners, was elected Secretary of the American Association of Port Authorities, at its eighth annual convention at Galveston, Tex., Nov. 10. The 1920 convention will be held at Chicago, Ill.

John E. Furness, Canadian Manager, and a director, of Furness Withy and Co., has resigned as Canadian Manager, and in future will reside in England. He was born in Sweden in 1878, and educated there. He entered Furness Withy and Co.'s service at West Hartlepool, Eng., and was transferred subsequently to the London office. In 1904, as head of the Freight Department, he came to Canada as Assistant Manager, and in 1905 was appointed Manager, and was located at Halifax, N.S. He was interested in civic affairs there, and was, for a time, one of the aldermen. He was also associated with the Board of Trade, the Sailors' Home, and several local organizations.

Capt. J. W. Harrison, heretofore master of various steamships operated by Furness, Withy & Co., has been appointed Marine Superintendent for Canada and Newfoundland, for the company, with office at Halifax, N.S.

Alexander Hector, who has been appointed Port Agent, Canadian Government Merchant Marine, Ltd., Halifax, N.S., was born there, Sept. 12, 1882, and entered transportation service in June, 1898, since when he has been to Oct., 1902, clerk, freight department, Dominion Atlantic Ry.; Nov., 1902, to Oct., 1906, clerk, freight department, Intercolonial Ry.; Nov., 1906 to Nov., 1917, telegraph operator, city ticket and express agent, and chief clerk, Traffic Department, consecutively, Halifax and South Western Ry.; Nov., 1917 to Jan., 1919, Travelling Freight and Passenger Agent, Canadian Northern Ry.; Jan. 1, to Sept. 30, 1919, Travelling Freight Agent, Canadian National Rys., all at Halifax, N.S.

Hiram McLean, who died at Truro, N.S., Nov. 7, aged 49, from typhoid fever, was a partner in the shipbuilding firm of McLean and McKay, with shipyard at Economy, N.S.

Patrick John Melvin, who has been appointed Contracting Freight Agent, Marine Navigation Co. of Canada, which operates from Montreal during the summer and West St. John, N.B., during the winter, to St. Nazaire, France, was born at Trim, Ireland, Mar. 3, 1872, and entered railway service in Oct., 1888, since when he has been, to Aug., 1889, junior clerk, Freight Department, Great Northern Ry. of Ireland, Omagh; Aug., 1889 to Mar., 1894, clerk, Freight Department, same road, Newry; May, 1894 to Apr., 1898, clerk, Audit and Claims Department, G.T.R., Montreal; Apr., 1898 to Feb., 1906, clerk, Foreign Freight De-

partment, C.P.R., Montreal; Feb., 1906 to Sept., 1918, chief clerk, Export Freight Department, same road, Montreal; Sept., 1918 to Mar. 15, 1919, acting Export Freight Agent, same road, Montreal; Mar. 15 to Nov., 1919, Export Freight Agent, C.P.R., Montreal.

J. F. Paige, whose resignation as Manager, Port Arthur Shipbuilding Co., Port Arthur, Ont., was announced in our last issue, together with his appointment as Operating Manager, Halifax Shipyards, Halifax, N.S., was born at Pictou, N.S., Dec. 13, 1873, and commenced his shipbuilding career with the Truro Foundry & Machine Co., Truro, N.S., as an apprentice, and entered the engineering department in 1892. In 1896 he was employed by the Perth Amboy Shipbuilding Co. of New Jersey and returned to Truro in 1897. From 1898 to 1902 he was consecutively junior and chief engineer, Dominion Atlantic Steamship Co., and from 1904 to Dec., 1916, was Superintendent, Fore River Shipbuilding Co., Boston, Mass. He was appointed Manager, Port Arthur Shipbuilding Co., in Feb., 1907, and during the time he was with the company, 27 ships were launched.

Capt. J. R. Philp, who died at Toronto, Nov. 19, aged 85, was stated to be one of the oldest sailors in Canada. He came to Canada from England in the early days, in a sailing vessel which took 19 days to make the trip, a comparatively fast time. He served as master of a number of boats on the Great Lakes and retired from active service in 1884.

G. D. Robinson, whose resignation as European Freight Agent, Canadian Pacific Ocean Services, Ltd., Montreal was announced in our last issue, has opened an office at Coristine Building, Montreal, where he is carrying on business as steamship freight broker, shipping, forwarding and chartering agent.

H. B. Smith, President, Collingwood Shipbuilding Co., who left on Sept. 15 for England and France, in connection with shipbuilding matters, returned to Owen Sound, Ont., Nov. 19. He was accompanied on his trip by J. S. Leitch, General Manager, Collingwood Shipbuilding Co., and Paul G. Chace, Vice President, Port Arthur Shipbuilding Co.

Cameron Stanton, Assistant Deputy Minister of Marine, has returned to Ottawa, after a brief visit to England.

Capt. W. Turnbull, master of the White Pass and Yukon Ry. s.s. Dawson, died suddenly at Vancouver, Oct. 30, very shortly after leaving the s.s. Princess Mary, on which he had come down from the north. He was born in Scotland in 1868, and had been in W.P.& Y.R. service since 1898, during which time he had been master of practically every one of its vessels on the Yukon River.

R. C. Vaughan, Assistant to President, Canadian National Rys., left Toronto, Nov. 9, for Vancouver, accompanied by D. O. Wood, Traffic Manager, Export & Import Department, C.N.R., on business connected with Canadian Government Merchant Marine Ltd., and the operation of its ships which are being built at the Pacific coast. They are expected to return to Toronto early in December.

Col. A. W. R. Wilby, C.B.E., who returned to Canada recently after nearly four years on active service, has resumed his position as District Engineer, Dominion Marine Department, Victoria, B.C. He left Canada in Mar., 1916, with the 62nd Battalion, C.E.F., which was broken up in England shortly after, and he was transferred to the 48th Battalion (3rd Canadian Pioneers, and went to France, where he served as a major until May, 1917, when the battalion was broken up. He was then appointed Deputy Assistant Director, in connection with the labor directorate for the Canadian Corps, and on its reorganization in the early part of 1918, he was promoted to Colonel with the title of Labor Commandant, at Canadian Corps headquarters. He was mentioned in dispatches on two occasions and was made a Commander of the Order of the British Empire for services at the front.

Vancouver's Recommendations for Harbor Improvements, Etc.

The Canadian Manufacturers' Association's British Columbia Branch, has made a number of recommendations to the Vancouver Harbor Commission, for the improvement of harbor facilities there. These recommendations, which were to be taken up with the Dominion Government, by the Commission, during its visit to Ottawa in November, comprise the construction of large dock and freight sheds on Burrard Inlet; a terminal railway system, as recommended in what is known as the Swan report; provision for 2 fireboats to be equipped for no other purpose than to protect wharves and industries on False Creek and Burrard Inlet; keeping of the port charges as low as possible, to induce trade; and the submission that dredging and maintenance should not be a direct charge upon the port's traffic, but should be met out of general revenue; immediate construction of a dry dock capable of repairing any vessel which might come into the port; all possible steps to be taken to encourage export trade, the operation of government owned steamships and the continuation of shipbuilding.

Non Rolling Ship—E. A. Sperry is reported to have stated, at the Society of Naval Architects and Marine Engineers' annual meeting in New York recently, that plans are in progress for extensive adoption of a new principle so that benefits and economies resulting from a ship guaranteed against rolling will be available to the travelling public.

Gladys H.-Eric W. Collision—An enquiry was held at Ottawa, Oct. 20, before Capt. L. A. Demers, Dominion Wreck Commissioner, and Capts. C. Lapierre and C. J. Stuart as nautical assessors, into the collision between the barge Gladys H., tow and the Webtser Steamship Co.'s s.s. Eric W., in the Lachine Canal recently. The court found that the master of the Eric W. violated article 29 of the Rules of the Road for the Great Lakes, causing the barge Gladys H. to swerve to port, when her steering was nullified through her keel nearing or touching bottom, due to disturbed water caused by the Eric W. The certificate of the master of the Eric W., Capt. Marchant, was suspended for one month from its receipt by the court, and he was cautioned that the regulations framed for guidance of navigating canals and narrows stretches of water must be strictly adhered to.

Edward Stone, General Advertising Agent, Canadian Pacific Ocean Services Ltd., Montreal, formerly General Agent, Passenger Department C.P.O.S., Yokohama, Japan, in sending in a subscription order, writes: "I enclose my subscription to your valuable paper. It is on file in the Yokohama office and is read very diligently by the staff there."

Shortage of Certificated Masters and Mates.

The acting Minister of Marine, on Nov. 5, moved, in the House of Commons, as follows: "That it is expedient to amend the Canada Shipping Act, chap. 113 of the Revised Statutes, 1906, by providing that,—

"1. Notwithstanding any provision in the Merchant Shipping Act, 1894, or any amendment thereto, or in the Canada Shipping Act, or any amendment thereto, the Minister of Marine and Fisheries of Canada may grant permission to the following vessels to clear from any port in Canada on any voyage even though the master and mate of any such vessel, or either of them, do not hold valid certificates of competency or service, provided that the said minister is satisfied that properly certificated men cannot be procured and that the acting master and mate are competent and have sufficient experience:—

"(a) Canadian registered vessels other than vessels carrying passengers;

"(b) Canadian registered vessels carrying passengers not exceeding 100 registered tons, which ply exclusively within what the Minister of Marine and Fisheries may deem to be sheltered waters within the inland waters or on the sea coasts of Canada;

"2. These provisions shall continue in operation for one year from the date of the passing of the act to be based upon this resolution and no longer."

The resolution was carried, and a bill founded on it was read a first time, Nov. 7. On the second reading of the bill, Nov. 8, the acting Minister of Marine said that if the bill was acceptable, he purposed amending it, so that it would be restricted to sailing ships, and operative only for 6 months. During the war an order in council was passed permitting vessels to sail from Canadian ports without certificated masters and mates, if it were shown that it was not possible to get them, and that the men engaged were competent. Now it is impossible to get the required number of certificated masters and mates for trans-Atlantic voyages, there being more Canadian ships, particularly sailing ships, in trans-Atlantic business than for the past 25 years. In the U.S., sailing ships up to 700 tons gross can leave any U.S. port without certificated officers, and in the United Kingdom any freight vessel may engage in the coasting trade without certificated officers. All that the bill was intended for was to continue for 6 months after the proclamation of peace what was permitted under the war time order in council, but if any substantial objection developed, the bill would be withdrawn.

There was a considerable amount of objection from members of the opposition, chiefly on account of the late date on which the bill was brought forward, precluding what was regarded as full and adequate discussion, and the bill was withdrawn.

The White Transpportation Co.'s s.s. H. E. Runnels of Buffalo, N.Y., ran aground at Grand Marais on the south shore of Lake Superior, Nov. 13, during a heavy storm and was pounded to pieces, the crew being rescued by coastguards. She was built at Port Huron, Mich., in 1893, The hull was of wood, and her dimensions were: length, b.p., 182 ft.; breadth, moulded, 35 ft.; depth, moulded, 13 ft.; tonnage, 889 gross; 629 net.

Legislation and Regulations Respecting Compulsory Equipment of Radio Telegraph Apparatus on Ships Registered in Canada and Great Britain.

Canadian Railway and Marine World has been favored by the Deputy Minister of Naval Service, G. J. Desbarats, C.M.G., with the following summary:—

1.—Canadian legislation and regulations.

(a) Radiotelegraph Act, Statutes, 1913, chap. 43, sec. 4. The provisions of this section are limited to vessels carrying or licensed to carry passengers. Vessels coming under one of the following categories must carry a radiotelegraph equipment and one operator:

When carrying 50 or more passengers and crew and plying between ports more than 200 miles apart.

When carrying 250 or more passengers and crew and plying between ports more than 90 miles apart.

When carrying 500 or more passengers and crew and plying between ports more than 20 miles apart.

The above provisions are subject to a few minor exceptions.

(b) Temporary war measures—Defence of Canada order 23A, effective Jan. 1, 1918, prescribes that "Every steamer registered in Canada of 1,600 tons, plying to Europe, must be equipped with a radiotelegraph set and carry two certificated operators." This order automatically cancels when the War Measures Act is annulled.

2. International regulations—The provisions of the Convention on Safety of Life at Sea, 1914, prescribed that "All merchant ships which carry 50 or more persons, whether they carry passengers or not, must carry a radio equipment and one or two operators, subject to the exception that any of the contracting parties may exempt ships which in the course of their voyage do not go more than 150 miles from the nearest coast."

This convention, while signed by all the leading mercantile powers, including Canada, has not yet been declared effective; it will probably become effective in Great Britain on Jan. 1, 1920.

3. Existing British Legislation—(a) Defence of the Realm Regulation 37B, 1916, prescribed as follows:—"Every British ship of 3,000 gross tonnage or more which has been granted a license to install wireless apparatus, must be fitted with such apparatus and provided with one certificated operator."

(b) On Oct. 23, 1917, the provisions of the above regulation were amended as follows:—"Every British seagoing ship of 1,600 gross tonnage or more, which has been granted a license to install wireless apparatus, must be fitted with such apparatus and provided with two certificated operators." This latter regulation is still in effect (Nov., 1919).

(c) Canadian Regulation 23A, mentioned in paragraph 1 (b), is practically identical with this British Regulation, with the exception that the provisions of our regulation are limited to Canadian ships plying to Europe or in European waters.

4. New Legislation by Great Britain—"An act to make further provisions with respect to wireless telegraphy on ships" has been passed by the British Parliament. It becomes effective on the cancellation of the British Defence of the Realm Regulation dealing with the compulsory equipment of radiotelegraph apparatus.

Every seagoing British passenger steamer and every seagoing British steamer of 1,600 tons gross or upwards, shall be provided with a wireless equipment and with one or more certificated operators, the number of operators to be governed by the regulations contained in the convention for Safety of Life at Sea.

The Board of Trade is given power to exempt any ships or classes of ships in which they consider the installation of a radiotelegraph equipment is unnecessary or unreasonable.

A passenger steamer is defined as one which carries more than 12 passengers.

Three months after the act comes into force, its provisions shall apply equally to ships registered in foreign countries and to British ships registered elsewhere than in the United Kingdom.

With the annulment of the Canadian War Measures Act, in the near future, compulsory equipment in Canada will be limited to passenger ships affected by the provisions of the Radiotelegraph Act, Sec. 4, and will, accordingly, be less drastic than the British legislation in this reference. Canadian ships plying to Great Britain will, nevertheless, be affected by the new British legislation.

It is probable that the convention for Safety of Life at Sea will be approved by Canada in the near future, and when its provisions are placed in effect, every ship carrying more than 50 persons, and plying on voyages which take her more than 150 miles from the coast, must be equipped with wireless apparatus.

The Great Lakes Transportation Co. has bought the s.s. F. P. Jones, from the United States Shipping Board. She was owned formerly by Geo. Hall Coal Co., Ogdensburg, N.Y., and is now at Midland, Ont., where alterations are being made by the Midland Shipbuilding Co. She is a steel ship and was built in 1913 at Wyandotte, Mich., on the channel system, with steel tank top where no wood ceilings are fitted. She has 3 watertight and 2 non-watertight bulkheads, stee lboiler house, steam pump well and electric light. Her dimensions are: length, 244 ft.; breadth, 43 ft.; depth, 21 ft.; tonnage, 1,706 gross; 1,059 net. She is equipped with triple expansion engines, with cylinders 18, 29 and 48 in. diar. by 40 in. stroke, 900 i.h.p., at 85 r.p.m., supplied with steam by 2 Scotch boilers, each 12 x 11½ ft., and 170 lb. She has been renamed Glencadam, and transferred to the Canadian register, and will be operated to South American ports.

Canada Steamship Lines' Earnings—A London, Eng., cablegram of Nov. 19, credits W. Grant Morden, M.P., one of the company's London advisory committee, with stating that the company had had record earnings for this year, and that there would certainly be a bonus to the shareholders.

Seal Cove Marine Ways, Ltd., has been incorporated under the British Columbia Companies Act with $10,000 authorized capital, and office at Prince Rupert, B.C., to own and operate dry docks, marine ways, shipbuilding plants, steam and other vessels, etc.

Gulf of St. Lawrence Shipping and Trading Co.'s Service.

A recent press report from St. John's, Nfld., said:—"The Gulf of St. Lawrence Shipping and Trading Co. will have a regular fortnightly service of steamships between Montreal and St. John's next summer. The St. John's agents are A. Harvey & Co., who have the use of Shea's wharf for discharging cargoes. All this autumn they are running the service under a temporary arrangement with United States steamships. The Ellerslie and Lake Elon have already made trips from Montreal with general cargo, but instead of going back to Montreal, return to the United States. The s.s. Galatea is now on the way here. The two regular boats for the service are being built and will be 2,800 tons each, with first class accommodation for about 60 passengers. One will be ready by June next, the other in July.

"The company's travelling agent, Mr. Keating, of Montreal, who is now in the city, states that the new ships will be up to date in every particular and special attention will be given to passenger accommodation."

Canadian Railway and Marine World understands that the Gulf of St. Lawrence Supply Co. made an offer to the Marine Department recently for the 2 steel cargo steamships of approximately 2,800 d.w. tons each, which are being built by Nova Scotia Steel and Coal Co. for Canadian Government Merchant Marine, but that it was declined.

The s.s. John Owen, owned by the Owen Transportation Co., Detroit, Mich., is presumed to have been lost during a storm on Lake Superior, in the early part of November, together with her crew of 22. Search has been made for any trace of the ship or crew, and some wreckage has been found southwest of Caribou Island, bearing the vessel's name, but no trace of the crew has been discovered. The s.s. John Owen was built at Wyandotte, Mich., and was of composite construction, with diagonal strapping on frames, 2 watertight bulkheads, steel boiler house, steam pump wells, bow sheathed for operation in ice, and with center board and electric light equipment. Her dimensions were: length, b.p., 281 ft.; breadth, moulded, 41 ft.; depth, moulded, 21 ft.; tonnage, 2,127 gross; 1,609 net. The propelling machinery consisted of triple expansion engines, with cylinders 19½, 33 and 56 in. diar., by 42 in. stroke, 1,500 i.h.p. at 80 r.p.m., supplied with steam by 2 Scotch boilers each 12½ x 11 ft. at 160 lb.

Manchester Liners, Ltd., report for the year ended June 30, shows that after providing for depreciation, and all charges, and including balance brought forward, there was a surplus of £137,369. Of this, £50,000 has been placed to reserve account, a dividend of 15% paid absorbed £66,780, and £6,678 was placed to first debenture reserve fund, leaving £13,911 carried forward to the current year. The company's steamships were operated during the year free of serious accident, and two new ones were added to the fleet, viz.: Manchester Brigade and Manchester Division. The company operates between Manchester, Eng., and Canada.

The Marine and the Naval Service Departments, Ottawa, have moved their offices, from Mackenzie Ave., to the new Hunter building, O'Connor St.

Canadian Notices to Mariners.

The Marine Department has issued the following notices:—

Ontario—Lake Huron and Georgian Bay, sailing directions—A new edition of "Sailing Directions for Canadian shores of Lake Huron and Georgian Bay," has been published; copies may be obtained from the Hydrographic Survey, Naval Service Department, Ottawa, for 25c each.

Ontario—Kaministikwia River, Fort William—The small shoal extending out from the south side of the Kaministikwia River at the lower end of the Westport turning basin has been removed by the Public Works Department to a depth of 25 ft. The temporary black spar buoy marking the shoal will be discontinued.

United States—Lake Superior, St. Marys River, Cedar Point range lights moved to Round Island—Front light, on northerly end of Round Island; fixed white light; 2,500 candles; elevation, 50 ft.; black, pyramidal, skeleton structure, with white slatted oval daymark. Back light, on southerly end of Round Island; fixed white light; 2,500 candles; elevation, 70 ft.; black, pyramidal, skeleton structure, with white slatted oval daymark.

Nova Scotia—Bay of Fundy, Minas Basin—The operation of lights and fog alarms in the Bay of Fundy and Minas Basin on the north coast of Nova Scotia, east of Margaretville, with the exception of Ile Haute, will be discontinued while navigation is closed for the winter, normally from about Jan. 10 to about April 1, each year, without any special notice being given. Any or all of these lights may be relit, at any time, if the Department deems it in the best interests of navigation through the absence of severe weather or if navigation is possible.

Quebec—Gulf of St. Lawrence, Magdalen Islands, Grand Entry Harbor—New back range light to be established, on or about Nov. 1, 1919; 240 ft. 40° 30′ (N. 67° E. mag.) from front light. Fixed red catoptric light shown from a locomotive headlight lantern; elevation, 37 ft.; pole, with shed at base, on concrete foundation; color, white.

Quebec—Chaleur Bay, St. Omer—The outer portion of the breakwater at St. Omer has been carried away and the lighthouse now stands on the extremity of the remaining portion, 135 ft. shoreward of its former position. Mariners should give the light a berth of 150 ft. until the debris has been removed.

North Atlantic Ocean—Floating mine—A floating mine was sighted on Oct. 9, in lat. n. 45° 39′, long. w. 29° 19′.

North Atlantic Ocean—Floating derelict—The wreck of the s.s. Venezina, which was abandoned on fire in lat. n. 43° 32′, long. w. 45° 4′, is reported to be a menace to navigation.

Nova Scotia—Port Medway, Voglers (Conrads) Cove—Buoys established on west side of channel leading up to the cove; wooden spar buoy; red. On east side of channel at entrance to cove; wooden spar buoy; black. On west side of channel inside the cove; wooden spar buoy; red.

Prince Edward Island—Murray Harbor, Irvine Point—A channel, 65 ft. wide and 7 ft. deep, has been dredged by the Public Works Department, through the bar in front of Irvine lane, about 800 ft. west of Irvine Point. The dredged channel begins at the north side of the bar and extends shoreward for 1,000 ft. The inside 200 ft. has been dredged to a width of 200 ft. to form a basin.

Prince Edward Island—Naufrage Pond—The channel between the breakwaters at the entrance to Naufrage Pond, and the basin inside the breakwaters, have been dredged by the Public Works Department to a depth of 5 ft.

Quebec — River St. Lawrence, St. Thomas channel — Black gas buoys 73½B, 75B, and 77B, have been moved southward 250 ft. giving the channel a width of 750 ft.

Ontario—Great Lakes and River St. Lawrence—All Canadian lights and fog alarms on Lake Superior will be kept in operation this autumn until the close of navigation, with the exception of Caribou Island, Quebec Harbor, Davieaux Island, and Michipicoten Island east end, which will be closed on Dec. 15, and with the exception of Gargantua, Michipicoten Harbor, Corbeil Point, and Ile Parisienne, which will be closed on Dec. 20. Also Slate Island, Battle Island, Lamb Island, Shaganash, Point Porphyry, Thunder Cape, Welcome Island, Pie Island, and Victoria Island, which will be closed after the last sailing to or from Port Arthur and Fort William.

All Canadian lights and fog alarms on Lake Huron, Georgian Bay, Lake St. Clair, Lake Erie, Lake Ontario, and connecting waters, will be maintained in operation until the close of navigation, excepting the Southeast Shoal lightship, Lake Erie, which may be removed after Dec. 1, and also Lonely Island light, Georgian Bay, which may be closed before the general close of navigation.

All Canadian lights on the River St. Lawrence will be maintained in operation until the close of navigation.

All gas buoys and other floating aids to navigation will be maintained in position as long as ice conditions will permit, and in cases where it is necessary to remove gas buoys before the close of navigation, the more important points will be marked by spars.

New Brunswick—Bay of Fundy, Mascabin Point—The steam fog horn has been replaced by a diaphone, operated by air, compressed by an oil engine, giving one blast 3½ seconds duration every 30 seconds.

Nova Scotia—Green Island Fog Alarm, additional particulars. On west side of island. Bombs exploded every 15 minutes, and every 5 minutes when vessels' signals are heard in dangerous proximity.

United Kingdom Wireless Telegraphy Requirements—This contains the text of the Merchant Shipping (Wireless Telegraphy) Act, 1919, an abstract of which is given under "Legislation and Regulations Respecting Compulsory Equipment of Radio Telegraph Apparatus of Ships Registered in Canada and Great Britain," on another page of this issue.

Elder, Dempster & Co., Montreal, state that they are replacing part of their heavy losses sustained during the war and have already added to their fleet 5 new steamships of 10,500 d.w. tons each, viz.: New Brunswick, New Texas, New Toronto, New Georgia and New Mexico, also the s.s. Bassa, of 8,500 d.w. tons. They are also building several other steamships, including some 12,500-ton ships, which are expected to be ready next spring. The steamships mentioned above are specially adapted to suit the Canadian-South Africa service.

Upbound and Downbound Courses on Lakes Huron and Superior.

On the Dominion Marine Association's recommendation resulting from consideration given to correspondence on the subject, the Canadian Lake Protective Association decided recently that the observance of separate courses upbound and downbound in Lake Huron and on the south shore of Lake Superior shall be an official requirement under normal conditions for all vessels enrolled in the association, the one exception to the rule being that in stress of weather the master should follow his own judgment as to deviation from the prescribed courses. The regulation as to Lake Huron has been in force in the association for a number of years, and masters are directed to pay careful attention to the rule with a view to additional safety for their ships.

On Lake Huron a line is to be drawn on the chart from Detour Passage to a point 10 miles e.n.e. of Thunder Bay Island light, thence to a point 10 miles off Harbour Beach, thence to Lake Huron light vessel; and on Lake Superior a line is to be drawn from point of departure to a point 6 miles north of Devil Island, thence to a point 10 miles north of Copper Harbour, and thence to Whitefish.

All upbound ships are to keep to the westward of this line on Lake Huron and to the southward on Lake Superior, and all downbound ships are to keep to the northward of this line on Lake Superior and to the eastward on Lake Huron, giving the line a good margin of leeway, and deviating from this rule only when in the master's judgment weather conditions require it.

Improvement Expected in Atlantic Shipping Situation.

London, Nov. 4.—T. Lodge, Secretary to the Ministry of Shipping, says a steady improvement is expected in the Atlantic shipping situation. The ministry will not state what percentage of liner cargo space it will require for December, but thinks the situation will gradually improve during the winter. The ministry will not carry Canadian wheat for the allies in controlled cargo space. This means that Belgium, France, Italy and Portugal, and possibly Poland, will have to make their own arrangements if they take Canadian wheat. The Hudson's Bay Co. will probably carry the French and Belgian wheat and the Italians will put on a service of their own. Contracts for the supply of large quantities of Canadian flour to Scandinavia are under negotiation and separate arrangements are necessary for this. Special copyright cablegram to Montreal Gazette.

Trent Valley and Welland Ship Canals. J. A. Campbell, M.P. for Nelson, Man., asked in the House of Commons, Nov. 10, whether the financial condition of the country permits of the expenditure on the Trent Canal of $1,329,000, and on the Welland Ship Canal of $3,675,000 this year. The Minister of Justice replied as follows: "Work on the Trent and Welland Ship Canals, together with other works were closed down during the war. During the current year work was resumed on the Welland and Trent Canals for the purpose of giving work to the unemployed civilians and returned soldiers in the districts affected."

Rumored Shipping, Shipbuilding and Steel Merger in Canada.

Reports are current of a merger of steel and shipbuilding interests in Canada, it being stated that the companies involved are, Dominion Steel Corporation, Nova Scotia Steel and Coal Co., Steel Co. of Canada, and Canada Steamship Lines. At a meeting of the directors of the Dominion Iron and Steel Co., one of the constituent companies of the Dominion Steel Corporation, at Montreal, Nov. 20, it was announced that it had been decided to sell 50,000 shares of common stock in the Dominion Steel Corporation Ltd., to a London, Eng., syndicate, at $70. Mark Workman, the President, in making the announcement, stated that it was felt that the business could be greatly extended and assisted by enlisting the cooperation of men influential in shipping, coal and steel circles. He also stated that an advisory committee for the purpose of co-operating with the Dominion Steel board in connection with its interests in Great Britain, would be formed. The syndicate mentioned includes Sir William Beardmore, of William Beardmore and Co., shipbuilders, etc., Glasgow, Scotland; Lord Furness, head of Furness Withy and Co., and Honorary President, Canada Steamship Lines Ltd.; Sir Trevor Dawson, of Vickers Ltd., Canadian Vickers Ltd., and of the Canada Steamship Lines, London advisory board; Sir Harry McGowan, Benjamin Talbot and Henry Steel.

British Columbia Coast Steamship Service, C.P.R.—J. W. Troup, Manager, Victoria, B.C., authorized the statement, in August, that the construction or acquisition of further car barges and passenger steamships for the company's service was being considered, but that no definite plans had then been made, and no expenditure had been authorized. We are now advised that nothing definite has been decided on and that the cost of construction appears to be almost, if not absolutely, prohibitive.

The Dredge Canada P.W.D. No. 7, was offered for sale by tender, by the Public Works Department up to Nov. 27, as she lies moored at Liverpool, N.S. She was built of iron in 1872 at Renfrew, Scotland, and is being sold, as it is found that it is no longer economical to operate her as a dredge, but that it may be possible to convert her into a steamship or a barge. She is 132 ft. long with 20 ft. beam. There are 2 simple engines 22 x 21 in. with one Scotch boiler, 9 ft. long by 10 ft. diar.

Inspection of Ships' Tackle—The Civil Service Commission asked applications recently for the position of Inspector of Ships' Tackle. Applicants are required to have had a primary school education and at least 2 years experience as rigger or stevedore and to be familiar with all kinds of ships' tackle The salary will be $1,200 a year, which may be supplemented by such bonus as may be voted by parliament The duties cover the inspection of ships' tackle, life jackets, etc.

The International Transportation Co. Ltd., has been incorporated under the Dominion Companies Act, with $500,000 authorized capital, and office at Montreal, to carry on a general mercantile business, and also a general ticket agency for transportation by land and water and a general shipping business, including chartering vessels.

Amendments to Radiotelegraph Regulations.

The acting Minister of the Naval Service, Hon. A. K. Maclean, submitted in the House of Commons, on Nov. 3, an amendment to the Radiotelegraph Regulations as follows:

Regulation 88 of the regulations made by the Minister of the Naval Service in accordance with the Radiotelegraph Act, statutes of 1913, chap. 43, sec. 11, as enacted by the Minister of the Naval Service on Oct. 12, 1916, is hereby repealed and the following is substituted therefor:—

"88 (a) No person shall be permitted to attend examination for any class of certificate of proficiency in radiotelegraphy who is not a natural born British subject; who has at any time been of enemy nationality, or whose parents or either of them, have at any time been of enemy nationality. Provided, however, that any naturalized British subject, who has not, or whose parents, or either of them, have not, at any time, been of enemy nationality, may be admitted to examination if his application be approved by the Minister of the Naval Service.

"(b) Candidates for examination for first class certificates of proficiency must be not less than 18 years of age.

"(c) For the purpose of this regulation a person shall be deemed to be of enemy nationality if he has at any time been a subject of a state with which Great Britain has been at war within a period of 10 years, immediately proceeding the date of this regulation."

The Canadian Deep Waterways and Power Association was organized at Windsor, Ont., Nov. 19, to promote a deep water route from the ocean to the head of the lakes, and incidentally to encourage various power development schemes along the route. The officers elected for the current year are: Honorary President, W.M. German, K.C., Welland, Ont.; Honorary Vice Presidents, Sir Adam Beck, London, Ont., and the Mayor of Toronto; President, O. E. Fleming, K.C., Windsor, Ont.; Vice President, E. L. Cousins, Toronto.

Government Steamship Tyrian—The Dominion Public Works Department gave a contract, Oct. 30, to T. Hogan & Co., boiler makers, etc., Halifax, N.S., for repairs to the ships machinery and boilers, at a cost of $19,890. The Tyrian was built at Glasgow, Scotland, in 1869, and is screw driven by engine of 108 n.h.p. Her dimensions are: length, 237.5 ft.; breadth, 30.2 ft.; depth, 10.9 ft.; tonnage, 1,039 gross; 667 registered. She has been utilized for some time as a cable repair ship.

International Bridge Assessment—The assessment of the property of the International Bridge Co., owned by the G.T.R., which has been under discussion for some months, was settled Nov. 5. The assessment was formerly $300,000, but early this year the Bridgeburg assessor increased it to $1,200,000. The company appealed, and after negotiation the Bridgeburg, Ont., Town Council, consented to fix $600,000 as the value for assessment purposes.

Among the Express Companies.

The Canadian National Ex. Co. has opened offices at Ragged Rapids and Tionaga, Ont., Val Jalbert, Que., and South Edmonton, Alta.

The Canadian Ex. Co., which is a subsidiary of the G.T.R., is included in the deal whereby the Dominion Government will acquire the G.T.R. properties.

The Dominion Ex. Co. has notified its agents of the increased premiums for money orders issued for payment in the U.S. on account of the difference in exchange. The increased premium due to the difference in exchange is 5¼%.

The Quebec Supreme Court, in the case of Benard vs. Canadian Ex. Co. for $350 claimed on the ground that a quantity of furs had not been delivered to plaintiff, held, Nov. 10, that the company was not liable, as the furs had been seized by the Game and Fisheries Department.

The American Ex. Co. has created a Canadian Division, with headquarters at Montreal, and A. C. Heffernan as Manager. All the United States express companies are, at present, being operated as the American Railway Express Co., under the United States Railroad Administration.

The Canadian Ex. Co. was charged Nov. 20, at Ottawa, with unlawfully importing intoxicating liquors into the Provinces of Ontario on Nov. 18. The charge arises out of the shipment of wines from Montreal to the Ottawa Country Club near Aylmer, Que., and owing to a misrouting of the shipment it entered the Province of Ontario. The hearing of the case was adjourned.

The Canadian Ex. Co.'s European Traffic office staff has been reorganized as follows: General Agent and Assistant to European Traffic Manager, P. A. Clews; Advertising Agent, M. V. Caldwell; with offices at London, Eng.; General Agent, E. J. Wearing; Freight Agent, J. M. Charles, with offices at Liverpool, Eng.; General Agent, J. M. Walker, with office at Glasgow, Scotland.

Registration of Cable Addresses.

The C.P.R. Co.'s Telegraphs and the Great North Western Telegraph Co. have issued the following circular to cable patrons:

Commencing Jan. 1, 1920, a fee of $2.50 a year will be made for recording a registered address. Upon that date all existing registrations will lapse, unless renewal has been previously made and the fee paid for the succeeding year. All registrations will automatically expire 12 months from date of registry and must be renewed, if a continuation of the registration be desired. Thirty days prior to expiration of any registration, a formal notice will be sent by one of the telegraph companies in order that the registration and subscription may be renewed, if desired. It will be necessary to register with one telegraph company only, as each company will at once record registrations with the other and render any desired assistance to patrons in making same. Reversible addresses will be discontinued, but customers may retain present addresses by making local registration, and arranging with their correspondents to make similar registration with the telegraph administrations abroad. Upon receipt of this advice please forward to one of the telegraph companies at your place verification of your existing selected address or addresses. It must be accompanied by a remittance to cover the registeration, of each address, for the year from Jan. 1, 1920.

Telegraph, Telephone and Cable Matters.

The Postal Telegraph Co., which is to lay a new cable in the Pacific Ocean between America and China, announces that it hoped to have the work completed and the cable in operation within two years. President C. H. Mackay, who returned recently from Europe, where he conducted the negotiations, is reported to have stated that the matter was progressing satisfactorily.

The Great North Western Telegraph Co. has opened offices at Restigouche, Que., Norwood, Ont., Erickson, Man., and Entrance, Alta., and has closed its offices at Bristol, Bryson, Cape d'Espair, Gilbert des Caps, Little Metis Beach, Montmagny and Pointe au Pic, Que., Attercliffe, Bala Park, Breslau, Clifton House (Niagara Falls), Dwight, Lake Joseph, Sparrow Lake and Wanstead, Ont., and Alberta Beach, Alta.

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.

Davis-Bournonville Co., Jersey City, N.J., has issued an 8 page circular, describing portable outfits for oxy-acetylene welding and cutting, including cabinet truck, large wheel open truck, and small wheel open truck. It has also issued a circular respecting its institute at Jersey City, for teaching the theory and practice of welding and cutting with the oxy-acetylene torch. The many requests received for skilled welders have made it imperative to meet the general present and future needs.

Davis-Bournonville Co., Jersey City, N.J., has issued a circular describing Davis acetylene flare light generator and referring to some of its many possible uses.

Independent Pneumatic Tool Co., Chicago and Montreal, has issued a folder, "Thor Super-Power Electric Drills," describing and illustrating its line of portable electric tools.

The Wellman-Seaver-Morgan Co., Cleveland, Ohio, has issued bulletin 38 "Mechanical handling of cargoes at the U.S. Army Supply Base, Boston, with W-S-M cranes," describing and illustrating the installation of 4 semi-portal bridge type cranes, to handle freight to and from ships.

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. Pinkston, 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, 909 Shaughnessy Building, Montreal.

Canadian Freight Association (Western lines)—W. E. Campbell, 805 Boyd Block, Winnipeg.

Canadian Railway Board of Adjustment No. 1—R. Chapple, 263 St. James Street, Montreal.

Canadian Railway Club—W. A. Booth, 131 Charron St., Montreal. Meetings at Montreal 2nd Tuesday, each month, 8.30 p.m., except June, July and August.

Dominion Marine Association—F. King, Counsel, Kingston, Ont.

Canadian Ticket Agents' Association—E. de la Hooke, London, Ont.

Eastern Canadian Passenger Association—G. H. Webster, 54 Beaver Hall Hill, Montreal.

Engineers' Club of Montreal—C. M. Strange, 9 Beaver Hall Square, Montreal.

Engineers' Club of Toronto—R. B. Wolsey, 94 King Street West, Toronto.

Engineering Institute of Canada—F. S. Keith, 176 Mansfield St., Montreal.

Express Traffic Association of Canada—C. N. Ham, Montreal.

Great Lakes and St. Lawrence River Rate Committee—A. E. Storey, 310 G.T.R. General Offices, Montreal.

Hydro-Electric Railway Association of Ontario—T. J. Hannigan, Guelph, Ont.

International Water Lines Passenger Association—M. R. Nelson, 89 Chatham Ave., Buffalo, N.Y.

Niagara Frontier Summer Rate Committee, James Morrison, Montreal.

Quebec Transportation Club—A. F. Dion, Harbor Commissioner's Office, Quebec, Que.

Railway Association of Canada—W. M. Neal, Montreal.

Shipping Federation of Canada—Thos. Robb, Manager, 42 St. Sacrament Street, Montreal.

Toronto Transportation Club—W. A. Gray, 257 Roxton Road, Toronto.

Transportation Club of Vancouver—H. W. Schofield, 556 Church St., Vancouver, B.C.

Transportation Conventions in 1920

Feb. 10-12—American Wood Preserveds' Association, Chicago, Ill.

Mar. 16-18—American Railway Engineering Association, Chicago, Ill.

May—Association of Railway Claim Agents, Atlantic City, N.J.

May—International Railway Fuel Association, Chicago, Ill.

May 5-7—Air Brake Association, Chicago, Ill.

June—American Association of Freight Agents.

June 9-16—American Railroad Association's Mechanical Section, Atlantic City, N.J.

Customs Requirements in Connection with coastwise shipping, of which some complaints have been made in regard to the situation on the Pacific coast, is being dealt with locally, with the co-operation of the Dominion Marine Association. Vessel owners on the Great Lakes are not affected to such an extent as those on the Pacific coast, and in the former case, it has been found possible to transact business without the difficulty complained of. The suggestion is that the requirements for clearing vessels at customs, where purely coasting business is concerned, should be abolished, as they throw a much heavier burden on vessel owners than is justified by the benefits received. It is believed that satisfactory arrangements can be made in consultation with the customs officials.

The Marine Stevedoring and Contracting Co. of Canada, Ltd., has been incorporated under the Dominion Companies Act, with $10,000 authorized capital, and office at Montreal, to carry on a general stevedoring, contracting, wrecking and salvaging business. The incorporators are,—J. Mazzala, J. Maura, New York; E. Burke, Westmount, Que.; T. P. and J. H. Dillon, Montreal.

CANADIAN PACIFIC RAILWAY COMPANY

Dividend Notice.

At a meeting of the Board of Directors, held today, a dividend of two and one-half per cent. on the Common Stock for the quarter ended 30th September last, being at the rate of seven per cent. per annum from revenue and three per cent. per annum from Special Income Account, was declared payable on 31st December next, to Shareholders of record at 3 p.m., on 1st December next.

By order of the Board,

ERNEST ALEXANDER,
Secretary.

Montreal, 10th November, 1919.

THE VICTORIA ROLLING STOCK & REALTY CO., OF ONTARIO, LIMITED.

Notice is hereby given that a dividend of four per cent. on the paid-up capital stock of the Company for the half-year ended Nov. 29th, 1919, has been declared payable Dec. 1st, 1919, to the shareholders on record as of the 29th of Nov., 1919.

G. T. CHISHOLM, Secretary.

Toronto, Nov. 22nd, 1919.

NOTICE.

The General Railway Signal Company of the United States of America, the owner of the exclusive rights to Canadian patents No. 92323, No. 93127, No. 96256, and No. 97758, issued to Young and Townsend, and covering methods of signalling electrified railways, wishes to call the attention of all possible users of the devices and systems covered by such patents to the facts that it is prepared to sell and furnish, at short notice, all such devices and to install such systems upon any railway in the Dominion of Canada.

All inquiries regarding the above should be addressed to The General Railway Signal Company of Canada, Limited, Lachine, Province of Quebec, Canada.

For Sale and Classified Advertising

Under this heading Canadian Railway and Marine World will place advertisements for Positions Wanted, positions Vacant, Equipment for Sale, Tenders Wanted, Dividend, Annual Meetings, Legal Notices, etc.

ADVERTISING RATES.

Rates for advertisements set in uniform style in six point under

Positions Wanted and Positions Vacant, 3c per word.
Equipment for Sale advertisements, 4c per word.

Allow five words where replies are to be sent to a box number. Minimum order—$1.

Rates under other headings and for display advertisements on application.

SALE OF MILITARY STORES, ETC.

Dry Goods, Hospital Furniture, Bedding, Hardware, Leather Goods, Junk, Etc.

Sales will be made by sealed tender

Persons desiring to tender are requested to register their names and addresses with the **Secretary of the War Purchasing Commission, Booth Building, Ottawa** stating the class of goods in which they are interested, whether new or second-hand or both.

Tender forms with full details of the goods and places at which samples may be seen, will be mailed when ready to those who have registered as requested above.

Special Terms to Hospitals, Etc.

Dominion, Provincial, and Municipal departments, hospitals, charitable, philanthropic, and similar institutions which are conducted for the benefit of the public and not for profit may purchase goods without tender at prices established by the War Purchasing Commission.

Returned Soldiers and Sailors and Widows and Dependents of Soldiers and Sailors killed in the War may obtain supplies, for their own personal use and not for re-sale, through the nearest branch of the Great War Veterans Association who will combine individual orders and forward to the War Purchasing Commission through the Dominion Command of the Great War Veterans Association. These services are rendered by the Great War Veterans Association to all parties in the class named, whether members of the Great War Veterans Association or not.

All communications should be addressed to the Secretary, War Purchasing Commission, Booth Building, Ottawa, who will be glad to supply lists and further details to those interested.