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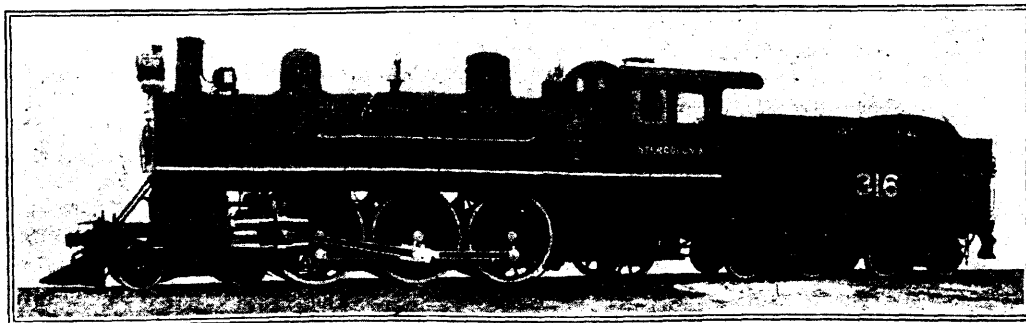
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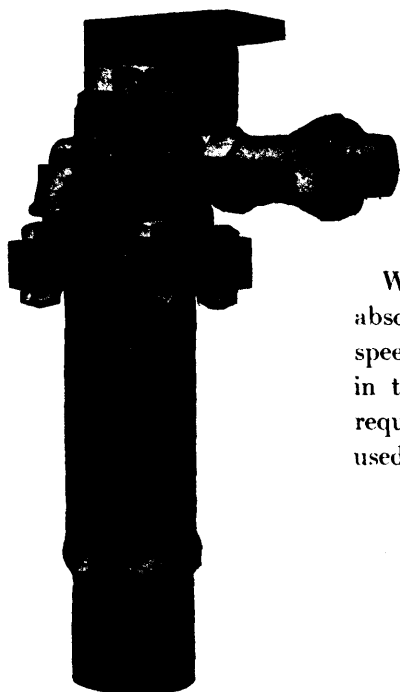
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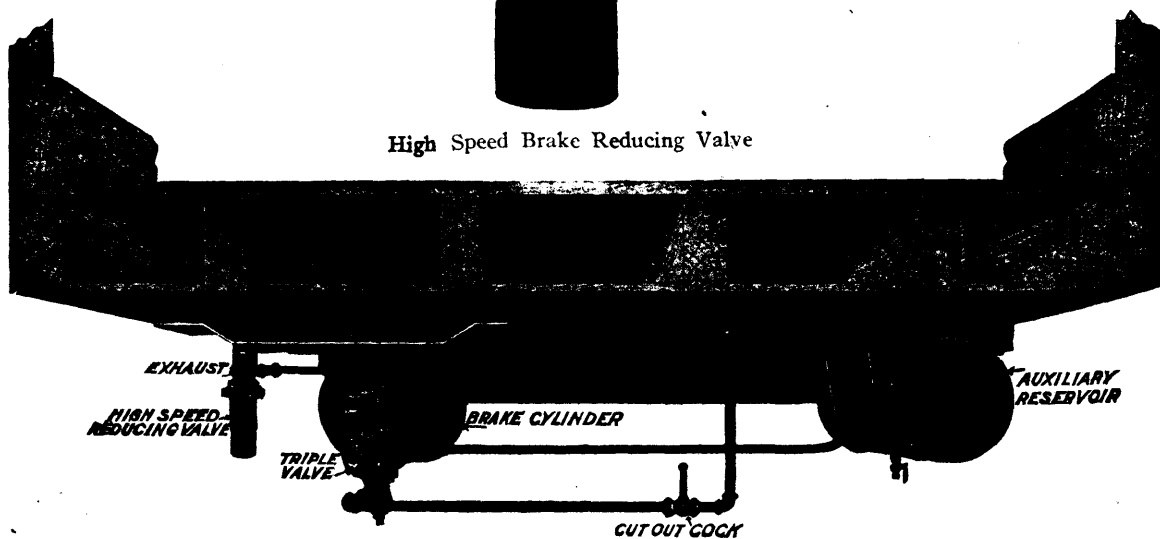
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## The Construction of a Railway Passenger Car.

By C. F. Rydberg, General Foreman, C.P.R.  
Car Shops, Montreal.

In presenting an article upon the construction of a passenger railway car, I will not try to go into all the minor details, but give a general synopsis of the most important points. One of the most important things is the care and drying of the lumber. All hard-wood lumbers, after being sawed, should be carefully piled up in the lumber yard with about 1 in. strips between each layer of boards, one end of the pile should be placed even, with the top of the pile projecting over the bottom about 12 in., and the strips between the layers of boards placed opposite one another and even at the end. After the pile has been finished, it should be carefully covered over to prevent the sun and rain from warping and checking the boards. A great deal of lumber can soon be wasted in the lumber yard if it is not properly taken care of, and it is necessary to give this part of the work as much attention as any of the others in the construction of cars, and it should remain in the yard for about a year to air dry, to allow the sap to evaporate, and then be put through the dry kilns. When the lumber is going through the dry kilns, it has to be carefully watched that the right temperature is maintained. Some advocate the steaming of lumber the first day that it is placed in the kiln; the object of this is to heat the boards through and to drive out the sap; but others advocate the drying of lumber by systems of air circulation with steam pipes for heaters, while others with hot air alone. The different systems of drying lumber all have their own merits. Locality may have something to do with the preference of some of them, but the point they all look for is to thoroughly dry the lumber in the shortest time possible, without checking or discoloring. After the lumber comes out of the kiln, it should be piled up under a cover, from two to three weeks, before it is taken into the wood-mill to be cut up. The object of this is to allow the lumber to take a set under natural conditions. In working up lumber for outside and inside finish, the shops should be kept free from moisture and maintained at a fair heat, to prevent the lumber from absorbing dampness, until it is finished and varnished; after the pores are filled and varnished, it will then take a more permanent set, and will not so readily swell or shrink with the change of the weather.

Commencing with the bottom of the car. Sills without splices are always preferred

where this length of timber can be obtained, but there are not many car-building companies which are fortunate enough to be so located that they can conveniently purchase sills the required length of car without splicing. When sills are spliced, it is customary to zig-zag the splices, so that they will not all come opposite to one another. A splice illustrated on page 509 was invented by one of the men at the C.P.R. shops, and, in my opinion, this is the best splice for splicing of sills that is known to-day, as you will all note that the ends in this splice are all square, and in the bumping of a car there is



FRANK W. MORSE

Vice-President and General Manager Grand Trunk Pacific Ry.

no part of the splice that can give. The bumping of a car is considered to be a much harder strain than the pull. This cut shows two iron plates, one on top and one on bottom. But this can be buried with an iron plate on the side. A splice of this kind is made on the hollow mortising machine, and there is but very little hand labor used in trimming it up to put together. The key in the centre is used principally for drawing the two pieces together to make the shoulders tight.

Of late years, considerable iron has entered into the construction of the bottom of passenger railway cars. The side sills are

plated with plates of iron about  $\frac{3}{4}$  x 7 in., some running them the total length of the sill, and others only to the centre needle beam. On the inside of this plate there is an extra sub-sill placed to receive the mortises for the bridging. In some cases I have seen cars built where this inside sub-sill was left off and the mortise put through the iron plate, but as this cuts the plate nearly in two, I would consider this bad practice, and the benefit received from the iron plate would be very small. The steel platform and wide vestibule was a decided improvement and an advance over the older style of non-vestibule cars and wooden platforms. With the present car, with steel platform, wide vestibule, and anti-telescope plate, and the end post, end plate, and end sill re-inforced with iron, the travelling public can feel secure, as it is almost impossible that a car built as mentioned, can be totally destroyed or telescoped by rear-end collision; a part of the end would only be broken, and, in most cases, the damage would not go beyond the end of the car. The passengers in the centre would possibly not receive any more injuries than a shaking up.

In building the bottom of a car, the majority are framed as follows: Two centre sills, two intermediate sills, two side sills, with  $\frac{3}{4}$  in. tie rods running clear through, about 4 ft. apart. After the bottom has been thoroughly bolted together, and lined up, a false floor is nailed in between the sills, resting on cleats about 2 in. from bottom of sills; this is to receive shavings and fillings in the bottom of the car. Steel platforms, needle beams, truss rods, etc., can now be put on, and the camber of the car set, and the bottom, deafening floor laid cross-wise of the car. The bottom is now filled up with dry pine shavings, which are cheap, and answer all purposes. Some may vary from this, putting in a filling of mineral wool. This filling is put in about from  $4\frac{1}{2}$  to 5 in. deep. After this, a third floor is laid on top, usually diagonally, and given a heavy coat of paint and covered with tar paper; the object of the tar paper is to make the floor warmer and also to prevent the floor from creaking; a good top floor, out of quarter-sawed hard pine, or maple, is then put on, running length-wise of the car, for coaches. In sleeping cars it is customary to lay both the top floors diagonally opposite one another, so that one will form a brace against the other, but on account of the wear of the floor in the centre of the aisle in passenger coaches, it would not be advisable to do this on the latter kind of a car on account of repairs; if the floor, diagonally laid, was worn in the centre, it would all have to be taken up, but

(Continued on page 509.)

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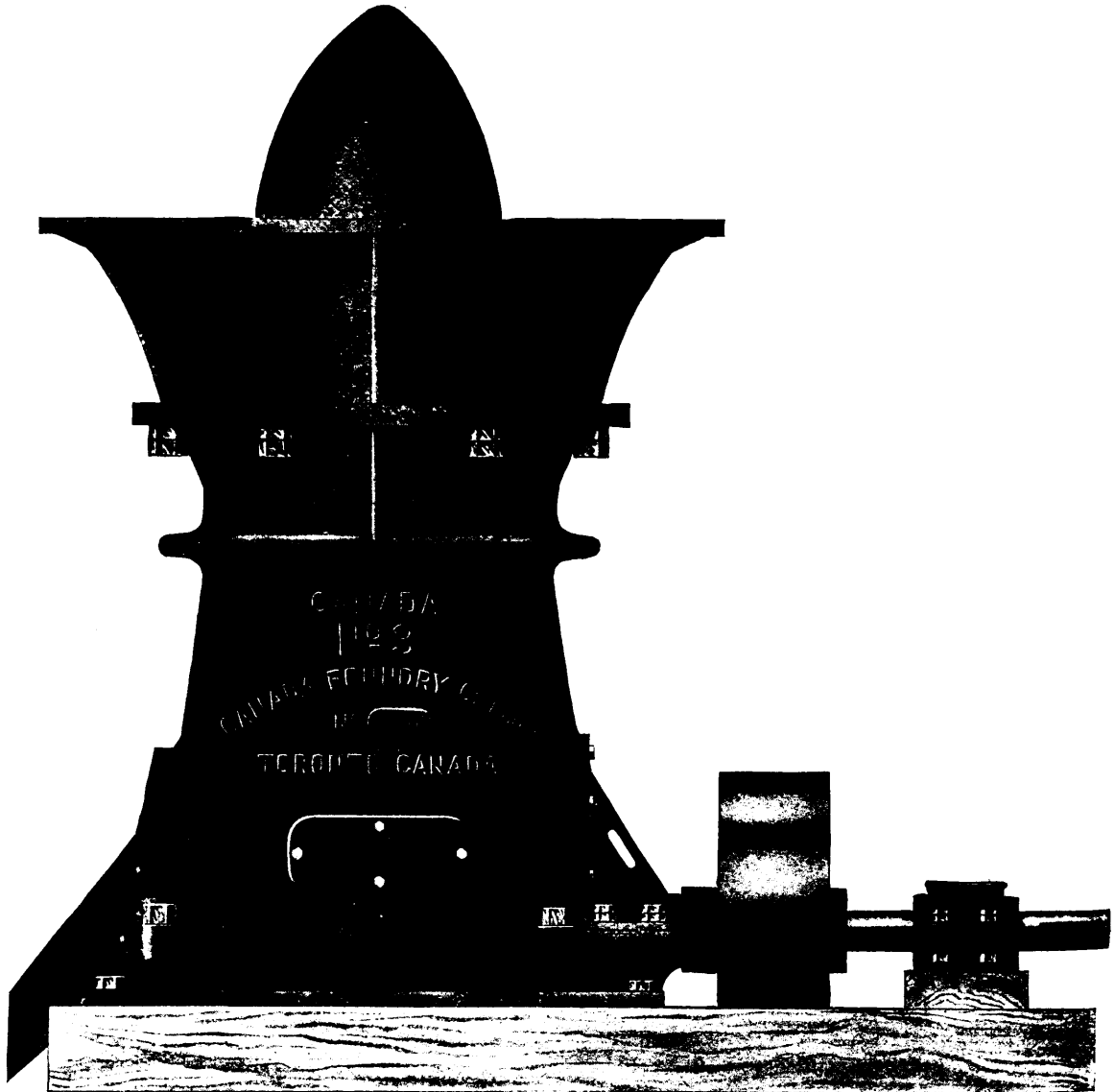
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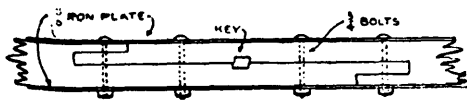
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## The Construction of a Railway Passenger Car.

(Continued from page 505.)

when it is laid length-wise of the car, the boards which are worn can easily be replaced.

In old cars, with wooden platforms, you, no doubt, have noticed how the ends droop; this is because the sills gradually bend, but with the steel platforms and plating the sills, this has all been overcome; and in trussing the cars it has been the custom for most builders to turn the ends up from  $\frac{1}{4}$  to 3-16 in. to ensure a straight car without drooping ends after the strain comes on to the truss rods and woodwork after the car goes into service. The side sill plates are hammered by the blacksmith, on the flat side, to take the shape of the chamfer of the car.



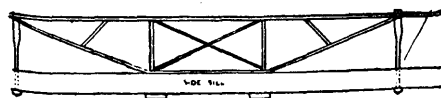
Sill splice invented by C.P.R. employe.

The next parts of the car to put on are the posts, top plate, and elevation deck. In lining up the top side plate, it is customary to pull it in  $\frac{1}{8}$  in. on each side in the centre. Iron deck carlines are put in about 6 ft. apart, and wherever partitions cross the car there is an iron carline placed with a lug projecting at the bottom of the deck rail, so that a rod can be run across the car to tie it together. In setting up frame, it is tied together and braced by strips of boards, some cut the right length for supporting the elevation deck, and for the width of the upper deck boards are cut out with notches in them, and nailed temporarily in the deck sash openings. The frame is now in its right position and securely held by temporary bracing.

The next parts of the car to put in are the belt rail, ribs, braces, and blocking. When the blocking of the frames was first introduced, it was a decided improvement over cars formerly built without blocking; it makes a warmer car and more rigid. The mode of applying the blocking is by rabbetting the posts about  $\frac{1}{4} \times \frac{3}{4}$  in. deep, and fitting the blocking in tight, and glueing and nailing the same.

The next process is to put in the belt rail, ribs and braces. Great care has to be taken in fitting the ends of the braces; a piece of 1-16 in. sheet iron is driven into the joint to ensure a perfect fit. This also makes a stronger job, and prevents the braces from pressing into one another. After the brace has been applied, the blocking is put in. In some cases, the long bracing and ribs have been discarded, and in their place the car sides are sheathed up with  $1\frac{1}{2}$  in. poplar planks, fitted tightly together and glued, also gained to fit tightly around the post.

The inside truss rod, size  $\frac{1}{2} \times 2$  or  $2\frac{1}{2}$  in., with round ends, and supported with cast iron truss posts (located usually over one of the bolsters), is for two purposes, one for holding up the end of the car, the other for holding down the centre of the car when the car received heavy blows from shunting. For heavy cars the inside truss rod is sometimes varied as shown in this sketch.



The present mode of applying inside truss rods is to gain the posts in the mill all the same distance from the bottom, and this raises the inside truss rod in the centre the same as the camber of the car. I consider this wrong practice; this rod should run

perfectly horizontal, after the camber of the car has been put in; this, then, would make it serve a third purpose, of holding up the centre of the car in place of pulling it down, and in place of gaining posts in the mill all the same distance from bottom, these gains should be cut into the posts by hand. It can be readily seen that the weight of the ends of the car and the downward blow the ends receive from hard shunting, has a tendency to straighten this rod, and in so doing pulls the car down in the centre. This slackens up the inside rod and lets the ends down, but if the inside truss rod is put in straight, there is no chance for it to slacken. If the bottom outside rod should get slack, the inside rod would commence to pull, and the weight of the ends of the car will help to pull the centre of the car up.

The side of the car is bolted together with  $\frac{3}{8}$  in. rods running from the plate through the sill. If the pillar is 4 in., one rod is placed through the centre, for pillars of about 12 in. down at the side; if it is a very wide pillar, these rods are put in about 12 or 14 in. apart. The end rods running down through the end plate are usually about  $\frac{1}{2}$  in. The elevation deck is bolted in a similar manner, and all the pillars between the deck sash are framed up solid.

The roof boards are usually white pine or poplar; for the lower deck about 2 in., and the upper deck about  $2\frac{1}{2}$  in. wide. Great care should be taken in laying the roof boards; they should be both nailed and screwed to prevent the roof from creaking, and any high joints should be dressed off to prevent them from showing through the canvas.

For roof covering, no. 6 canvas, 40 in. wide, the weight of which is 1 lb. 8 oz. per yard, has been almost universally adopted, and it is found that this gives a much better roof than the old style of tin, which would crack in the joints from the working of the car. When the canvas roof was first applied, it was thought necessary to coat the canvas underneath with paint, but later this was found not to be necessary, and it makes a much better roof without the paint on the underneath side on account that the canvas can be stretched much better and put on tighter without the underneath coat of paint. Copper flashing is applied around all the iron carlines where they run through the canvas on the side, and this flashing is soldered at the top, to the carline, to prevent water from getting in or running down into the car. Some builders apply copper flashing on the lower deck the whole length of the car at the deck sashes; this is quite expensive, and is found not to be necessary, as the canvas will last as long as the deck sash as at any other part. It is very important that the right kind of paint is properly applied on new canvas roof. A new roof should have no less than four coats of good paint, and one day between each coat. Canvas on the lower stretch is brought down about 1 in. on the face of the eave moulding and nailed with a double row of 16 oz. cut tacks; on the upper deck one row of tacks has been found to be sufficient, but in both cases the canvas should be pulled over and nailed on the face of the moulding, in place of at the edge.

In fitting in the sash rest, the window post should be gained on the side about  $\frac{1}{8}$  in., and sash rest should be fitted tightly in the window post so as to prevent water from getting in at the corners of the window stops.

The letter board is usually about  $1\frac{1}{2}$  in. thick. In my opinion, the best practice for applying letter boards is to use two thicknesses of  $\frac{1}{4}$  in.; the first thickness is screwed on from the outside into the post, and the outside letter board is then, in turn, screwed from the inside so that there are

no screw holes or plugs to show on the outside. The joints of all letter boards and sash rests should be thoroughly oiled or white-leaded; for cars finished in natural wood, oil only can be used, as white lead has a tendency to show through the varnish.

In applying the sheathing on the outside of the car, for a painted car this is usually poplar or other woods, according to location, and for a natural finished wood car, cherry, mahogany, or B.C. pine. In my opinion, the most economical way to sheath up the outside of a car is with sheathing with 3 in. face with a V groove through the centre. By using 3 in. sheathing it saves one joint where the stock is wide enough, and in cutting up the lumber all the narrow widths are used up and cut into sheathing with  $1\frac{1}{2}$  in. face, and both sizes used.

A great deal of trouble has been experienced from varnish peeling on the outside, and, in most cases, the painters are blamed; but after giving the question of paint-peeling a thorough study, it was found that in nearly every case it was caused by the dampness getting in behind the sheathing, especially at washstands, stove room, etc., but in some cases from the inside of the cars from washing the floors, also from the traps underneath the car from the steam heat; this was especially the case where the joints in the deafening floor underneath were bad; the steam would soak the shavings between the floors, and some cases have been seen where the dampness has penetrated the whole side of the car, and caused the paint or varnish to peel off. On natural finished wood cars these were serious questions, but they have almost been entirely overcome by soaking the sheathing in boiled oil for half an hour, and then putting it into a dry box; this forms quite a heavy coat of oil on the back and in the joints, and, in addition to soaking the sheathing in oil, the inside of it is coated, when applying, with a heavy coat of white lead, which protects the sheathing from any small amount of moisture which may get in at the back of it. I feel safe in recommending this mode of treating sheathing, even for painted cars, in the place of glueing, as the glue on the inside of the sheathing is no protection whatever from dampness, but will loosen right up. In some cases no. 28 zinc has been used for covering the whole side of the car before the outside sheathing was nailed on, to prevent water or dampness from getting in at the back.

The inside truss plank is put in the whole length of the car, about 3 in. thick, and from 10 to  $11\frac{1}{2}$  in. wide, with cove piece rabbetted into the plank on one side; and tongued and grooved on the other to match the flooring; the object of this is to form a water-tight corner. The truss plank is gained for post to fit into, and screws through the face into the post, and bolted to side sill with hook bolts that are also screwed to the plank with two screws that are placed at a distance of about  $2\frac{1}{2}$  ft. The object of the truss plank is to bind the bottom and side of the car securely together. With this mode of applying the truss plank and perfectly kiln-dried flooring, driven tightly together, the inside of the car forms nearly a water-tight compartment, so that the danger of water coming through the floors and reaching underneath floors and sills has been reduced to a minimum.

In laying out the frame of the car, the carline should be so placed in the roof that the partitions on the inside can be screwed through the face of the partition into the carlines. The edge of the partitions should also be securely screwed to the side of the car, and resting in a groove  $\frac{1}{2}$  in. deep, and should be solidly on the bottom of the groove at the side of the car, and about  $\frac{1}{4}$  in. off



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the bottom of the groove at the centre of the car. All partitions, inside finish, and head lining, before they are nailed up inside the cars, should have a covering of some heavy material, similar to old window curtain material, tacked or glued on between the frame and inside finish, to prevent the car from creaking.

On account of the frequent change of temperature in railway cars from warm to cold and damp weather, much more skill and care is required in building the cabinet work for the interior finish, than would naturally be required for the building of furniture. The system usually adopted for veneering of furniture would not stand in a coach or sleeper. In passenger cars it has been found necessary to cross-band all veneered work. Following is a cut of built-up work for partitions and berth fronts.



A great deal of care is also required when building the inside finish, to keep the materials in a moderately warm shop, so that they will not absorb dampness, and also to give the materials the second drying in heater boxes before the work is glued together, in order to drive out any dampness that the wood may have absorbed in laying around the shop.

The question of glue is also a very important one, as poor glue would not have the proper strength and would deteriorate; thousands of dollars would be wasted, and all the good work of the cabinetmakers would be lost. The glue which will absorb the most water and make the thickest gelatine is considered the best; but the question of slow or quick drying has also to be considered. For making glue joints, quicker drying glue is preferable, but for veneering purposes a slow drying glue is required; for instance, a glue which would be first-class in every other respect but quick drying would not give the same satisfaction for veneering as a slower drying glue, as it would set too hard before the cabinetmakers would be able to get their work into the presses, and the hot cauls placed and screwed down; and should there be any occasion to glue up material that is much exposed to dampness, a small amount of bi-chromate of potash can be mixed in to make it impervious to moisture; this is especially good for pattern makers. The time for veneered work to thoroughly dry requires about three weeks in a moderately warm room; this is especially the case where inlaid work is used for veneering. Veneer work that is cleaned up sooner than that is liable to show pit holes, and an uneven surface after it is varnished, but it is not always that the cabinetmaker can get so long a time to allow his work to lay and dry.

In veneering wooden cauls, galvanized iron smoothened, or sheet copper is used for heating in the heater boxes and laying between the veneers in the presses; some use zinc, possibly on account of its smoothness, but this is an error, as zinc is not a good retainer of heat. Copper and galvanized iron make a good caul for veneered circular work, such as berth fronts, etc. If one sheet of galvanized iron is not found to be sufficient, two may be used.

The preparing of fancy grain veneers for car work is a problem that very few of the present time cabinetmakers understand, until they come to work in a first-class car shop. The richest veneers in color are usually very cross-grained, and in preparing this kind of veneer it is necessary to thoroughly glue-size it and press it between hot cauls before it is laid. This is to thoroughly shrink it so that it will not crack after laying. But there are some very rich-colored,

mahogany veneers, which are so cross-grained where the grain is so short, that it is almost impossible to prevent them from cracking after they have been veneered; but in varnishing this kind of veneer, varnishing on the veneers without shellacing is found to be an advantage, as that the varnish will penetrate the wood deeper and fill the pores up better than shellac. In receiving the veneers from the saw, a good many veneers may be discolored with black, glossy spots; these all have to be tooth-planed off, as glue will not stick where these veneers are spotted.

The wood machine department, for getting out the interior finish for the cabinetmakers, is usually placed under the foreman of the cabinet shop, who makes out his bills for the interior work. In this department a good class of mechanics are required, who should also have the knowledge of how the work is going up in the car; by having this knowledge, they can work up materials to better advantage without waste, and by doing careful machine work a great deal of labor can be saved by the cabinetmakers.

A better class of upholstering work is required for passenger cars than for furniture. The same class of work that is done on furniture would not stand very long in cars; more springs are required and set up better. For covering of car seats, numerous materials and plushes are used; but, in my opinion, the best wearing material is crimson plush, but on account of its color it is not always advisable to use it. Seats and backs covered with rattan are preferable, especially for suburban coaches and summer travel, and leather for smoking-rooms and smoking-cars. Cheaper materials are also largely used for second class cars, which give very good service.

In the car heating department first-class workmanship is required, with good materials, as the strain on the heater pipes in a car is much harder than in an ordinary house; the best grade of pipe, extra heavy, is used, with wrought iron or steel couplings. I will not attempt to go into any of the details of steam heating, but the ordinary procedure for fitting up a new car is to put the heater pipes in first before any of the partitions are put up; this gives the steamfitters a free chance to work in the car.

The tinsmith department is also a very important branch in car building, and where cars are fitted up with overhead water tanks; in localities where the water is alkali, copper tanks only should be used as they will last much longer. Galvanized iron tanks may give good satisfaction on roads where the water is soft, but where the water is alkali they are liable to give out in one year.

The modes of lighting a car are by oil, Pintsch gas, acetylene gas and electricity. In reference to the latter, it is still in its experimental stages. The gas receivers and manner of piping are somewhat similar for both the Pintsch and acetylene gas; the latter gives a much brighter light.

Air brakes on the modern car are more powerful than formerly, some using 16 in. cylinders with high speed brake, and, in place of being fastened to the bottom of the car on a wooden plank, the cylinder is now bolted to an iron frame, which, in turn, is bolted to the sills.

All cars of more recent build have steel platforms. The side motion for the coupler has been increased of late years from 3 to 6 in., and in some cases a little more. This was found desirable to allow for easier curving and less wear on wheel flanges. Roller side bearings have also been introduced on late cars for the same purpose.

In building the trucks, considerable iron work now enters into the construction. The wheel pieces, cross timbers, and end sills are all lined with iron plates, and malleable iron

corner plates applied. Of late years, journals have been largely increased in size. There have been a number of different styles of journals, journal wedges and brasses used, but, in my opinion, the best system of journals, journal wedges and brasses, is the M.C.B. standard. In addition to this, roller bearings are now being experimented with, and should they prove successful, both as to service and cost, no doubt will be another marked advance in car building. In connection with trucks, we hear a great deal said and written about hot journals, but, in this respect, I wish to state that this can easily be overcome, at least, when cars leave the shops, by carefully finishing the journals so that there are no rough places. It is surprising the small amount of roughness on a journal that will cause a box to run hot; in some cases it is almost imperceptible. In addition to the care of the journals, the boxes should be properly packed and oiled; with the box working easily in the pedestal, and proper end motion for the brass, and with a truck fitted up in this way there is no danger of heating with the heaviest cars.

The process for painting and varnishing the outside of a new passenger car.—Natural wood finish, one coat, no. 1 primer, and allowed to stand two days, and then fill; then sandpaper, varnish one coat, putty and ornament, and finished with three coats of varnish. On natural wood finish cars, it is necessary to give one more coat of varnish than for painted cars. Painted cars have from three to four coats of paint, with usually two coats of color applied before varnishing.

The foregoing is a description of a part of the work in building a present day passenger car, but after this car is completely finished and ready for service, I consider it an absurdity on account of its weight. A tendency of late years has been to build the cars longer and strengthen them in all weak parts to ensure the safety of the public, and this has increased the weight until the management of the roads are bending their energies towards building heavier engines to haul heavier trains; this, in my opinion, is an absurdity, because expenses will increase in keeping up the road bed. If the same amount of energy was expended in building a car out of lighter and stronger material, such as aluminum, a market would be created for this material, and cheaper ways of manufacturing it would probably soon be adopted. This, in my opinion, is the ideal material for building railway cars in the future, to take the place of wood, iron, and brass trimmings, and I feel satisfied that it would not be very long before a car built of this material could be built as cheaply as the present car, and the weight would then be reduced to a minimum. To commence with, the outside to be covered with sheets of aluminum  $\frac{1}{4}$  inch thick; this would make a handsome car and be a big saving in maintenance in keeping up repairs and would be easier to keep clean while in service.

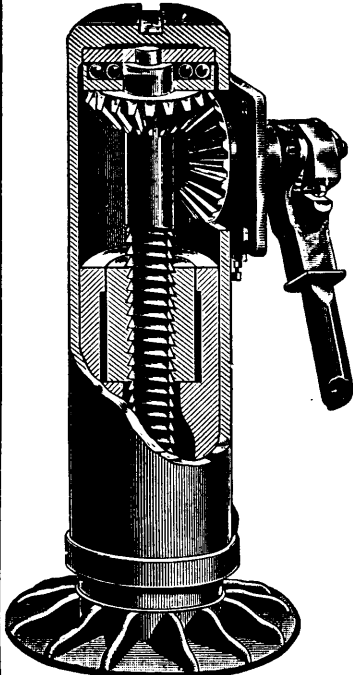
The foregoing paper was read at a recent meeting of the Canadian Railway Club.

The Canadian White Co., Montreal, has received the contract for the whole work of constructing the Federal Life Assurance Co.'s head office at Hamilton, Ont. It will be an eight story modern steel construction, fireproof structure and is to be completed by Aug. 1, 1906.

In our Oct. issue we gave some facts about the Canadian Freight Association and its various presidents. The position of secretary has been occupied as follows: 1883-4, E. Tiffin, Credit Valley Ry.; 1885-6, R. Quinn, G.T.R.; 1887-1890, A. H. Harris, G.T.R.; 1891-5, W. B. Bulling, C.P.R.; 1896-1905, J. Earls; 1905, T. Marshall.

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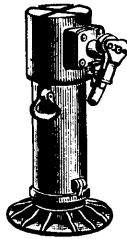
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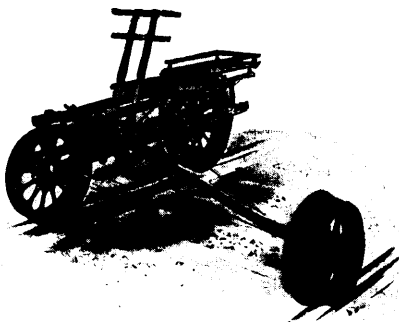
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The report of this subsidiary company of the C.P.R. for the year ended June 30, 1905, consists of tabular statements, which are printed without comment. The main line owned is 517.44 miles, branch lines owned, 58.73; total owned, 576.16; trackage rights leased, 9.64; total miles operated, 585.81, against 578.64 on June 30, 1904; the increase being in the mileage of branch lines owned. The equipment consists of 73 locomotives, 60 passenger cars, 2,589 freight cars and 87 miscellaneous cars. The income accounts in comparison with the year ended June 30, 1904, are as follows:—

	1904-5.	1903-4.
Earnings from operation	\$2,706,936.02	\$2,524,612.07
Operating expenses	1,852,705.09	1,749,456.12
Net earnings	\$854,230.93	\$775,155.95
Other income	15,774.13	11,483.96
Net income	\$870,005.06	\$786,639.91
Deduct—		
Interest on bonds	\$859,700.00	\$859,700.00
Interest on current liabilities	123.78	
Taxes	216,733.73	210,391.07
Total	\$1,076,557.51	\$1,070,091.07
Balance	206,552.45	Def 283,451.16

**EARNINGS AND OPERATING EXPENSES.**

	1904-5.	1903-4.
Gross Earnings	\$1,393,522.53	\$1,281,901.68
Merchandise freight	306,000.43	171,788.66
Iron ore freight	853,238.24	913,472.56
Passenger	60,301.79	58,889.60
Mail	33,138.12	35,348.80
Express	27,340.65	25,797.90
Sleeping and observation cars	33,295.26	37,412.57
Miscellaneous		
Total	\$2,706,936.02	\$2,524,612.07

	1904-5.	1903-4.
Maintenance of way and structures	\$436,316.15	\$406,722.27
Maintenance of equipment	227,768.26	219,311.49
Conducting transportation	1,107,043.44	1,041,803.84
General expenses	81,577.24	81,618.52
Total	\$1,852,705.09	\$1,749,456.12

Net earnings	\$854,230.93	\$775,155.95
Percentage of expenses to earnings	68.44	69.3
Gross earnings from operation per mile of road	4,620.84	4,362.78
Operating expenses per mile of road	3,162.64	3,023.23
Net earnings per mile of road	\$1,458.20	\$1,339.55
Gross earnings from operation per train mile	\$1,394.24	\$1,326.5
Operating expenses per train mile	.95426	.9192
Net earnings per train mile	\$ .43998	\$ .4073

The operating expenses include the cost of rebuilding and filling bridges, which for the year was \$8,551.20, against \$1,956.98 for year ended June 30, 1904.

**FREIGHT TRAFFIC.**

	1904-5.	1903-4.
Tons through freight carried, earning revenue	1,154,493	852,194
Tons local freight carried, earning revenue	1,699,043	1,108,555
Total tons freight carried, earning revenue	2,853,536	1,960,749
Mileage of through freight	120,152,670	95,250,662
Mileage of local freight	58,772,225	46,759,948
Freight mileage, or tons carried one mile	178,924,895	142,010,610
Average ton haul for through freight	104.07 miles	111.77 miles
Average ton haul for local freight	34.59 "	42.18 "
Average ton haul for all freight	62.7 "	72.43 "
Average amount received for each ton haul	\$8.862 cents	73.453 cents
Average receipts per ton freight	.885 "	.934 "
Average receipts per ton per mile for local freight	1.048 "	1.165 "
Average receipts per ton per mile for all freight	.939 "	1.010 "
Total freight earnings	\$1,699,531.06	\$1,453,690.64
Freight earnings per mile of road	2,601.17	2,512.12
Freight earnings per train mile	1.62	1.48

Following is the percentage of the tonnage of the principal commodities carried:—Ores, 49.42; logs, 9.81; other forest products, 8.65; lumber, 7.57; merchandise, 3.52; coke, 3.45; bituminous coal, 3.44; iron, pig and bloom, 2.31; copper, 1.87; flour, 1.68; grain, 1.03.

**PASSENGER TRAFFIC.**

	1904-5.	1903-4.
No. through passengers carried, earning revenue	131,522	152,537
No. local passengers carried, earning revenue	422,571	450,771
Total number passengers carried, earning revenue	554,093	603,308
No. passengers carried one mile	31,019,854	33,388,599
Average distance carried	55.98 miles	55.342 miles
Average amount received from each passenger	\$1.49648	\$1.46875
Average receipts per mile for through passengers	2.603 cents	2.526 cents
Average receipts per mile for local passengers	2.755 "	2.822 "
Average receipts per passenger per mile for all passengers	2.673 "	2.654 "
Total passenger earnings	\$974,108.80	\$1,033,508.86
Passenger earnings per mile of road	1,662.84	1,786.01
Passenger earnings per train mile	1.06095	1.0845

**BALANCE SHEET, JUNE 30, 1905.**

Cost of road and equipment	\$45,526,289.20
Mackinaw Transportation Co.	237,371.70
Lake Superior Terminal & Transfer Ry.	22,300.00
Lake Michigan and Lake Superior Ry.	7,662.68
S. S. Marie Bridge Co.	350.00
Mineral Range Rd. Co.	532,295.00
Sainte Marie Union Depot Co.	56,462.52
Western Express Co.	25,000.00
E. W. Allen, treasurer	57,319.61
Sundry account ledger	122,751.85
Rent ledger	1,073.50
Station ledger	395,359.27
Western Express Co. (current account)	14,861.44
Post Office department	14,683.77
Material	247,443.24
Profit and loss	2,460,420.22
	\$49,721,484.00
Common capital stock	\$12,000,000.00
Preferred capital stock	10,000,000.00
D. S. S. & A. consols, 4% gold bonds	15,107,000.00
D. S. S. & A. 1st mortgage 5% bonds	3,816,000.00
M. H. & O. 6% bonds of 1925	1,077,000.00
Income certificates	3,000,000.00
Car trust notes, 3rd series	5,099.61
Car trust notes, 5th series	236,213.10
C.P.R. guaranteed interest advances	2,985,115.18
C.P.R. general account	108,012.58
South Shore Land Co.	143,994.30
M. H. & O. Lands	9,248.80
Bills payable	16,000.00
Vouchers payable	173,925.47
Labor	161,326.22
Coupon ticket ledger	110,124.68
Car service ledger	7,298.38
Accrued interest on bonds	267,938.33
Accrued taxes	407,186.96
	\$49,721,484.00

During the year \$42,094.42 was charged to construction account, the principal item being \$38,699.03 for new branches and sidings.

**Orders by the Railway Commissioners.**

The following orders have been issued by the Board of Railway Commissioners:—

No. 654. Sept. 13.—Granting permission to the C.P.R. to construct a branch line to a ballast pit on the n.w. ¼ of sec. 17, tp. 10, range 25, w.p.m., Manitoba.

No. 655. Sept. 13.—Authorizing the construction of a spur from the C.P.R. Pembina Mountain branch, from south of Alexander ave. to Imperial Oil Co.'s premises, Winnipeg, Man.

No. 656. Sept. 13. Varying an order of July 19, by inserting 35 ft. 10 in. instead of 37 ft., as the width of the Poulette St. bridge, Hamilton, about to be reconstructed by the Toronto, Hamilton and Buffalo Ry.

No. 658. Sept. 13.—Approving of form of contract for the carriage of passengers and freight for the Wabash Rd.

No. 659. Sept. 14.—Granting permission to the G.T.R. to construct branch line in town of Penetanguishene, Ont., to the premises of the Breithaupt Leather Co., Ltd.

No. 660. Sept. 14.—Approving plan and profile of location for the Huron and Ontario Ry., from St. Clair Ave., Toronto Junction, to Edgeley, Ont.

No. 661. Sept. 14.—Approving plans for revision of location of the C.P.R. line through Alliston, Ont.

No. 662. Sept. 14.—Approving location plans for the projected line of the Brandon, Saskatchewan and Hudson Bay Ry.

No. 664. Sept. 18.—Approving of deviation from previously located line on C.P.R. Pheasant Hills branch, between mileage 212.5 and mileage 327.9.

No. 665. Sept. 18.—Sanctioning location plan of extension of the Tillsonburg, Lake Erie and Pacific Ry., from its present northerly terminus through North Oxford tp. to lot 2, con. 3, West Zorra tp., Ont.

No. 666. Sept. 18.—Approving location of the James Bay Ry. Co.'s line through the tp. of Mara, county Ontario, mileage 69.02 to 80.26, Toronto northward.

No. 667. Sept. 18.—Granting permission to the C.P.R. to cross Wellington, Nelson, Albert, Tupper, and Beach Streets, Alliston, Ont.

No. 668. Sept. 18.—Authorizing the opening for traffic of the C.P.R. Pheasant Hills branch from Lipton to Strassburg, Sask., 148 miles.

No. 669. Sept. 18.—Authorizing the opening for traffic of the C.P.R. Wetaskiwin branch from Wetaskiwin to Camrose, Alta., 25 miles.

No. 670. Sept. 18.—Authorizing the opening for traffic of a deviation on the main line of the C.P.R. between mileage 171.59 and mileage 175.90 west of Medicine Hat, Alta.

No. 671. Aug. 29.—Authorizing the construction within two years of a branch line from Catharine St. to the National Museum, Ottawa, by the Canada Atlantic Ry.

No. 672. Sept. 21.—Authorizing the construction within two years of a spur line in Sundridge, Ont., by the G.T.R.

No. 673. Sept. 21.—Authorizing the construction within two years of a spur line in Gravenhurst, Ont., by the G.T.R.

No. 674. Sept. 21.—Approving location plans for the St. Maurice Valley Ry., through the counties of Three Rivers, St. Maurice and Champlain, Que.

No. 675. Sept. 21.—Granting permission to the Water Commissioners of Berlin, Ont., to lay a water main under the G.T.R. tracks at Mill St.

No. 676. Sept. 21.—Granting permission to the Berlin, Ont., Town Council, to lay sewer and surface drainage pipes under the G. T.R. tracks at Wellington St.

No. 677. Sept. 21.—Authorizing the G.T.R. to construct a siding extension in Chatham, Ont.

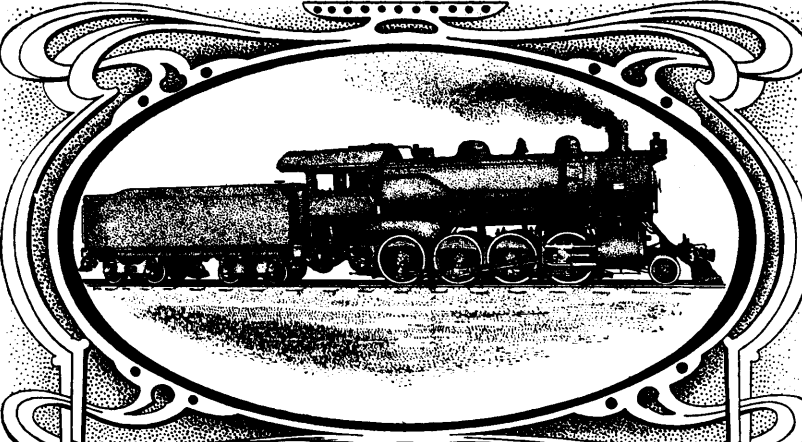
No. 678. Sept. 19.—Varying the order of Sept. 13, by inserting a clause to the effect that the C.P.R. branch line in Winnipeg shall be constructed and operated in accordance with the terms of an agreement with the city council dated Sept. 28, 1904.

No. 679. Sept. 21.—Granting permission to the G.T.R. to construct a branch line from north of Canterbury St., Woodstock, Ont., to the premises of the Bain Wagon Co.

No. 680. Sept. 22.—Granting permission to the G.T.R. to construct a branch line from its Buffalo and Goderich line, on w. ¼, lot 8, con. 1, tp. Humberstone, Co. Welland, south-erly to a point on lot 8.

No. 681. Sept. 22.—Approving of the crossing by the C.P.R. of Rollo and Bond streets, and Dundas and Waterloo roads, Galt, Ont.

No. 682. Sept. 25.—Approving plans for the reconstruction of four bridges on the St. John, N.B., section, C.P.R.



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**TERMS OF PAYMENT.**

An actual settler may purchase not more than 640 acres, on the ten instalment plan by paying a cash instalment at time of purchase, interest at six per cent. on the unpaid purchase money at the end of the first year, and the balance of the principal with interest in nine equal instalments annually thereafter as shewn in the following table:—

160 Acres at \$3.50 per acre, cash payment \$83.00, first year's interest \$28.58 and nine instalments of \$70.00			
" " 4.00 " " " " " " " " " "	95.85	" " " "	32.64
" " 4.50 " " " " " " " " " "	107.85	" " " "	36.73
" " 5.00 " " " " " " " " " "	119.85	" " " "	40.81
" " 5.50 " " " " " " " " " "	131.80	" " " "	44.89
" " 6.00 " " " " " " " " " "	143.80	" " " "	48.98

Purchasers who do not undertake to go into residence on the land are required to pay one-sixth of the purchase money down, balance in five equal annual instalments with interest at the rate of 6 per cent. per annum.

**DISCOUNT FOR CASH.**

If land is paid for in full at time of purchase, a reduction from price will be allowed equal to ten per cent. on five-sixths of the purchase money.

Interest at six per cent. will be charged on overdue instalments.

F. T. GRIFFIN,

Land Commissioner C.P.R. Co., Winnipeg.

**CANADA NORTH-WEST LAND CO.**

This Company has 750,000 acres of selected lands in Manitoba and Assiniboia which offer excellent opportunities to settlers and investors who desire to secure good lands in well-settled districts. These lands are on sale at the Company's Office at Winnipeg, and at the various land agencies of the Canadian Pacific Railway Company.

No. 683. Sept. 25.—Approving location of C.P.R. Pheasant Hills branch, from mileage 327.9 to mileage 360.3.

No. 684. Sept. 25.—Approving location plans of the Stratford and Listowel branches of the Guelph and Goderich Ry. for the C.P.R.

No. 685. Sept. 25.—Authorizing the opening for traffic of the C.P.R. Lacombe branch from Lacombe to Alix, Alta., 26½ miles.

No. 686. Sept. 25.—Approving location of line of Kootenay Central Ry., through town site of Windermere, B.C.

No. 687. Sept. 28.—Authorizing deviations from location of James Bay Ry., on Island A, Muskoka Lake, and lot 19, con. A, Medora tp., Muskoka district, Ont.

No. 689. Sept. 29.—Authorizing the C.P.R. to construct a branch line from a point on its main line in Toronto to the premises of the Salmon Lumber Co.

No. 690. Sept. 30.—Authorizing the Michigan Central Rd. to construct a branch line in Niagara Falls, Ont., from the main line near Victoria Park Station to the premises of the Canadian Shredded Wheat Co., Ltd.

No. 691. Sept. 30.—Approving location plans for the G.T. Pacific Ry., from near St. Lazare village on the Assiniboine River, mileage 0 to lot 24, tp. 12, range 21, w.p.m., on the Little Saskatchewan River, mileage 62.84, Manitoba.

No. 692. Sept. 30.—Approving location plans for the G.T. Pacific Ry., from sec. 17, tp. 17, range 26, w.p.m., near St. Lazare village, to sec. 21, tp. 25, range 11, west of the second initial meridian, mileage 0 to mileage 109.52.

No. 693. Oct. 2.—Granting permission to the Southwestern Traction Co. to cross the tracks of the G.T.R. near St. Thomas, by means of an undercrossing at the intersection between the town line between the tps. of Southwold and Yarmouth, Ont., and the G.T.R. tracks.

No. 694. Oct. 4.—Authorizing the James Bay Ry. Co. to carry its line across the highway between lots 5 and 6, con. 3, east of Yonge St., mileage 9.2 from Toronto, by an overhead bridge.

No. 695. Sept. 29.—Authorizing the Hawkesbury Electric Light Co. to carry electric light wires across the Canada Atlantic Ry. tracks at Hawkesbury, Ont.

No. 696. Oct. 5.—Authorizing the Salmon River and Northern Ry. to use the crossing authorized to be constructed under an order dated Sept. 2, during daylight, on keeping a flagman there.

No. 697. Oct. 6.—Ordering the C.P.R. to place an automatic electric bell at the crossing of Albert St., Regina, Sask., and directing that the main line be bonded for 800 feet west, and 1,000 ft. east of the crossing.

No. 698. Oct. 6.—Granting permission to the C.P.R. to lay an additional track across the road allowance between the 8th and 9th cons. of Belmont tp., Peterboro' Co., Ont.

No. 699. Oct. 6.—Authorizing change in location plans of C.P.R. Pheasant Hills branch from mileage 360.3 to mileage 364.7.

No. 700. Oct. 6.—Granting permission to the Guelph and Goderich Ry. Co., on consent, to close certain streets and lanes and to divert Blyth creek in Blyth, Ont.

We are advised that there is no truth in the recent press reports to the effect that the G.T.R. has given notice that after the current year the use of the Canada Atlantic Ry. tracks into the Central Station, Ottawa, by the C.P.R., will have to be discontinued unless new financial arrangements are made.

The Canadian Westinghouse Co., Hamilton, Ont., has issued a special booklet dealing with the direct current motors and other electric apparatus, designed for railway service. It has also issued circular no. 1121, Type G, Enclosed Switch; and no. 1123, Prepayment Wattmeters.

### Electric Wires Crossing Railways.

As a number of applications come before the Board of Railway Commissioners from time to time for permission to carry electric power wires across railway tracks, an order recently issued may be of interest as showing the general policy adopted by the Board:

The application in this case was made by the Brantford Electric and Operating Co., under Section 194 of the Railway Act, 1903, to carry two electric wires over the G.T.R. tracks at Dalhousie Street, Brantford, Ont. Upon the recommendation of the Chief Engineer of the Board approving of the plan and profile filed and the consent of the G.T.R. filed, it was ordered that the applicants be authorized at their own expense to carry the wires over the G.T.R. tracks, subject to the following terms and conditions:

That the applicants shall at all times, at their own expense, safely maintain the electric wires in good order and condition in all respects, so as at all times to permit of the full and safe use and enjoyment by the G.T.R. of its railway and telegraph and telephone communication, and of any tracks which may hereafter be laid or maintained by the G.T.R. at the said point. The poles carrying the said wires are to be of first-class material and erected in a substantial manner. The applicants shall take all reasonable precautions by the use of pegs set in an upright position at the extreme ends of each crossarm of the applicants' poles immediately outside of the G.T.R. right of way, by stringing a wire parallel with and above any telegraph wires carried along the right of way, or such other devices as the Engineer of the Board may from time to time deem best adapted to prevent the electric wires, in the event of their becoming loose or detached, from interfering in any way with the operation of trains or engines upon the railway or from causing inconvenience, accident, or injury to any passengers or employes thereon, or injuring any telegraph wires carried along the railway. The applicants shall at all times wholly indemnify the G.T.R. against all loss, costs, charges, and expenses to which the G.T.R. may be put by reason of anything done by the applicants in pursuance of this order or by reason of any damage or injury to person or property caused by any of the wires or resulting from the same not being at all times maintained in proper position, and also against all damage, injury or accident to the agents and employes of the applicant company while engaged in erecting, renewing, maintaining or repairing any of the wires. Nothing in this order shall prejudice or detract from the right of the G.T.R. to adopt at any time the use of electric or other motive power in the operation of its company's railway, and to place and maintain upon its right of way such poles, wires, and other fixtures and appliances as may be necessary or proper for such purpose. Any dispute arising between the applicants and the G.T.R. as to the manner in which the wires are being maintained and used or repaired shall be referred to the Chief Engineer of the Board, whose decision shall be final.

The Dominion Engineering and Construction Co. has been incorporated under the Dominion Companies' Act, with a capital of \$100,000 and office at Montreal, to carry on the business of electrical, mechanical and civil engineers and contractors, and in connection therewith to develop water powers, and to promote or acquire shares in companies having similar objects. The provisional directors are: V. E. Mitchell, E. F. Surveyor, C. M. Cotton, advocates; J. W. Weldon, barrister-at-law; S. L. LeHuray, accountant, all of Montreal.

### C.P.R. ANNUAL MEETING.

At the annual meeting in Montreal Oct. 4, the Chairman of the Board, Sir Wm. C. VanHorne, presided. The President, Sir Thos. G. Shaughnessy, in moving the adoption of the report for the year ended June 30, 1904, which was published in our last issue, said: The 24th annual report gives evidence of the strong and satisfactory position of the company. Your gross revenue from traffic during the fiscal year was over fifty millions of dollars, and even this large sum should be exceeded by a considerable amount in the current year. The business conditions throughout Canada are at the moment more favorable than at any other time in the history of the company, and there would appear to be no reason for apprehending a change in the near future.

While in all the agricultural territory served by your lines the crops have been excellent, those of Manitoba and the two new provinces were most striking, ensuring a handsome return to the farmers, continued activity in every branch of trade and manufacture, and a large traffic to your lines.

As the result of the expenditure made during the past three or four years for the elimination of curvature, reduction of gradients and general improvements, I think that it may now be fairly claimed that in physical condition and capacity for the movement of traffic your railway between Montreal and the Pacific coast is, at least, in the front rank of transcontinental lines.

With an eye to the future it will be necessary to provide additional cars and locomotives, and for this purpose a resolution will be submitted authorizing the directors to make further capital expenditure to an amount not exceeding \$7,500,000.

The success attending the company's operations is in no small degree due to the excellent staff of officers and men in all the departments from the Vice-President down, whose intelligence in the performance of their respective duties and whose loyalty and devotion to the company could not be excelled.

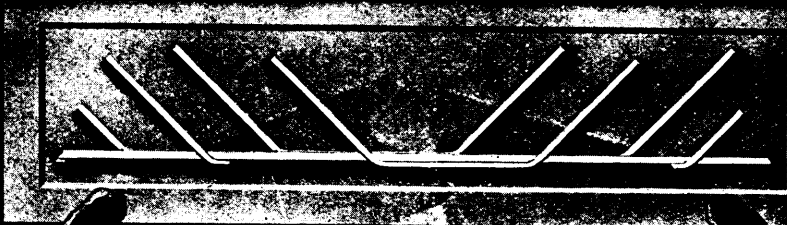
The report was adopted, as also were the resolutions referring to the several matters, and authorizing various expenditures:

Authorizing the construction of the Wolseley-Reston branch, 12.2 miles, and authorizing the issue of 4% consolidated debenture stock to the extent of £3,000 a mile to provide for the cost of the same.

Sanctioning and approving of the lease from the Nicola, Kamloops and Similkameen Coal and Ry. Co. to the C.P.R. for 999 years, of the whole of its railway as constructed, or hereafter to be constructed, including that portion now under contract for construction and partly constructed from Spence's Bridge to Nicola Lake, about 45 miles, and all extensions and branches and their appurtenances, at an annual rental of a sum equal to the interest payable on all bonds of not exceeding 4% per annum, which the N., K. and S. Coal and Ry. Co. may issue at the request of the C.P.R., interest to be guaranteed by the C.P.R., the aggregate of all such bonds not to exceed \$30,000 a mile of line, then constructed or under contract.

Authorizing the issue of 4% consolidated debenture stock to defray the cost of two new steamers together with their equipment and auxiliaries, authorized to be constructed Oct. 5, 1904; and which are now under construction by the Fairfield Shipbuilding and Engineering Co., on the Clyde, Scotland, as follows: Empress of Britain (shipyard number 442) and Empress of Ireland (shipyard number 443),

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5

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Treads.

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respectively, with rigging, appurtenances and auxiliaries complete, at a cost of £800,000 sterling; each steamship to have a gross tonnage of about 14,500 tons, a length of 550 ft. between perpendiculars and 570 ft. over all; beam 65 ft. 6 in., a moulded depth of 40 ft. to upper deck, and to be furnished with quadruple expansion engines of the most modern type.

Approving and ratifying an agreement entered into between the British Columbia Electric Ry. Co., the Vancouver and Lulu Island Ry., Lord Strathcona and Mount Royal, R. B. Angus (as trustee), and the C.P.R. This agreement embodies a traffic arrangement for the operation by the British Columbia Electric Ry. Co., by electricity, for both passenger and freight traffic, of that part of the C.P.R.'s English Bay Branch, between Granville St. in Vancouver, and its junction with the Vancouver and Lulu Island Ry., together with the Vancouver and Lulu Island Ry. (now under lease to the C.P.R.) from the said point of junction to Steveston, with a spur thereof upon the south side of False Creek, with the use of certain property appurtenant thereto mentioned in a schedule to the agreement, and provides, amongst other things, that the earnings, after paying the operating expenses and 4% to the C.P.R. upon the cost of the railway, and 4% to the Electric Ry. Co. upon the cost of equipping the railway electrically, are to be divided on the basis of 40% to this company, and 60% to the Electric Ry. Co.; such agreement to remain in force until Feb. 11, 1924, but in the event of the city of Vancouver acquiring the railways of the Electric Ry. Co. in February, 1919, the agreement shall then lapse.

Approving an agreement between the C.P.R. and the Spokane International Ry., which agreement provides, among other things, that the C.P.R. will procure the construction of a railway from near Yahk Station, B.C., to a point on the International boundary north of Bonner's Ferry, about 12 miles; that the Spokane International Ry. will construct a railway from the International boundary (where it will form a junction with the said other railway) to the city of Spokane, and also provides for the interchange of traffic between the said railways and for the division and apportionment of tolls in respect of the traffic upon the railways so to be constructed, for a period of fifty years from Jan. 1, 1905.

Authorizing the directors to enter into a lease from the Esquimalt and Nanaimo Ry. to the C.P.R. of the lines of the E. and N. Ry. as constructed or to be constructed, including the railway now constructed and in operation from Victoria to Wellington, on Vancouver Island, B.C., about 78 miles, for a term of 99 years at a rental equal to the interest at the rate of 4% per annum, payable half-yearly, on bonds guaranteed by the C.P.R. company, to be from time to time issued by the E. and N. Ry. with the consent in writing and under the seal of the C.P.R., the said bonds not to exceed the sum of \$30,000 per mile of the railway, branches and extensions constructed or under contract to be constructed; such lease to be in such form as may be approved of by the directors of this company, but it shall contain a clause to the effect that the E. and N. Ry. shall from time to time and in such manner as may be agreed upon by the boards of directors of the two companies, apply the net proceeds of all sales of land forming part of the land grant of the said company, towards the redemption of the bonds at par until the total amount of bonds outstanding shall be reduced to the sum of \$14,000 per mile of railway, branches and extensions con-

structed or under contract to be constructed.

Approving of the purchase of control of the St. John Bridge and Ry. Extension Co. at a cost of \$200,000.

Authorizing the expenditure on capital account of \$7,500,000 for additional locomotives, passenger and freight cars.

A resolution was also passed placing on record the sense of loss sustained by the company by the death of the late G. R. Harris, after 20 years of active service as a director.

The retiring directors, C. R. Hosmer, Hon. R. Mackay, D. McNicoll and R. G. Reid, were unanimously re-elected. They now hold office for a term of four years.

T. Skinner, director of the company resident in London, Eng., who has completed an inspection of the line, made a short address on the growth of the west, and the improvements on the line he had observed during his inspection.

The directors subsequently met, and the following elections were made: Chairman of the Board, Sir Wm. C. VanHorne; President, Sir T. G. Shaughnessy; Vice-President, D. McNicoll; Executive Committee: Chairman, Sir Wm. C. VanHorne; Lord Strathcona, Sir T. G. Shaughnessy, R. B. Angus, and E. B. Osler, M.P.

November Birthdays.

Many happy returns of the day to:

A. B. Atwater, Assistant to the 2nd Vice-President and General Manager G.T.R., for lines west of Detroit and St. Clair rivers, Detroit, Mich., born at Sheffield, Ohio, Nov., 1845.

W. F. Brougham, Local Right-of-Way and Lease Agent, C.P.R., Vancouver, B.C., born in Westmoreland, Eng., Nov. 25, 1865.

M. J. Butler, Deputy Minister of Railways and Canals, Ottawa, born at Deseronto, Ont., Nov. 19, 1856.

J. R. Cameron, Superintendent District 4, Canadian Northern Ry., Kamsack, Sask., born at Truro, N.S., Nov. 5, 1865.

H. J. Coffin, Trainmaster C.P.R., Brandon, Man., born at Gaspé Basin, Que., Nov. 23, 1859.

F. Conway, General Freight and Passenger Agent, Kingston and Pembroke Ry., Kingston, Ont., born at Ernestown, Ont., Nov. 19, 1850.

W. L. Crighton, Advertising Agent, Intercolonial Ry., Moncton, N.B., born at Derby, Eng., Nov. 9, 1871.

W. Downie, General Superintendent, C.P.R., Atlantic Division, St. John, N.B., born at Rock Currie, Ireland, Nov. 12, 1850.

L. Drago, Canadian Passenger Agent, New York Central Ry., Toronto, born in Raleigh Tp., Kent County, Ont., Nov. 7, 1860.

C. Drinkwater, Secretary and Assistant to the President, C.P.R., Montreal, born at Ashton-under-Lyne, Eng., Nov. 17, 1843.

Jos. Dubrule, Jr., Manager Canadian Pacific Car and Passenger Transfer Co., Prescott, Ont., born at Spencerville, Ont., Nov. 14, 1872.

F. W. Flanagan, General Passenger Agent C.P.R., London, Eng., born at Kingston, Co. Dublin, Ireland, Nov. 23, 1862.

W. Hendrie, Hamilton, Ont., railway promoter and contractor, and President of Hendrie & Co., cartage agents, G.T.R., born at Glasgow, Scotland, Nov., 1831.

C. R. Hosmer, director, C.P.R., born at Coteau Landing, Que., Nov. 12, 1851.

J. McGillivray, Superintendent Inverness Ry. and Coal Co.'s lines, Inverness, N.S., born at Nairn, Scotland, Nov. 13, 1867.

Jas. McLerie, Northwest Agent, Montreal and Lake Superior Line, Winnipeg, Man., born at Kilbarchan, Scotland, Nov. 6, 1850.

C. Murphy, Superintendent, C.P.R., Toronto, Ont., born Nov. 20, 1865.

P. A. Peterson, Chief Engineer, Guelph and Goderich Ry., Goderich, Ont., born at Niagara Falls, Ont., Nov., 1839.

H. J. Pettypiece, C.P.R. ticket agent, Forest, Ont., born near Amherstburg, Ont., Nov. 11, 1855.

J. Rennie, Master Mechanic, Carquet Ry., Bathurst, N.B., born at St. John, N.B., Nov. 1, 1858.

W. G. Roche, contracting freight agent, Canadian Pacific Dispatch, Detroit, Mich., born Nov. 3, 1877.

J. D. Rowe, Treasurer Central Ontario Ry., at Trenton, Ont., born at Ameliasburg, Ont., Nov. 7, 1864.

H. P. Sharpe, General Agent, Dominion Express Co., Toronto, born at Brockville, Ont., Nov. 24, 1864.

G. H. Shaw, Traffic Manager Canadian Northern Ry., Winnipeg, Man., born at Smith's Falls, Ont., Nov. 25, 1859.

J. C. Shields, Superintendent Mineral Range Rd., Hancock, Mich., born at St. Mary's, Ont., Nov. 29, 1863.

F. M. Spaidal, Superintendent district 2, Eastern Division, and Montreal Terminals, C.P.R., Montreal, born at Gananoque, Ont., Nov. 13, 1858.

H. P. Timmerman, General Superintendent, C.P.R., Ontario division, Toronto, born at Odessa, Ont., Nov. 6, 1856.

Arthur White, ex-Division Freight Agent, G.T.R., at Toronto, born at Hadleigh, Suffolk, Eng., Nov. 17, 1840.

G.T.R. SEMI-ANNUAL MEETING.

The following report for the half-year ended June 30, was submitted at the meeting in London, Eng., Oct. 12:

The following summary shows a comparison of the half-year's revenue account with that of the corresponding half-year, ended June 30, 1904:

June 30, 1904.		June 30, 1905.
£2,559,316	Gross receipts .....	£2,729,007 14 8
	Deduct—	
1,895,569	Working expenses, being at the rate of 70.48% as compared with 74.06% in 1904.	1,923,437 9 11
663,747	Net traffic receipts .....	805,570 4 9
	Add—	
12,931	Amount received from the International Bridge Co.	12,930 12 9
6,507	Interest on bonds of Central Vermont Ry. ....	6,506 14 3
60,311	Interest on securities of controlled lines and on St. Clair tunnel bonds acquired by the issue of Grand Trunk 4% debenture stock	60,310 11 11
12,283	Balance of general interest account .....	22,315 8 4
£ 755,779	Net revenue receipts .....	£ 907,633 12 0

NET REVENUE CHARGES FOR THE HALF-YEAR.

June 30, 1904.		June 30, 1905.
£ 77,603	Rents (leased lines) .....	£ 77,603 0 9
488,721	Interest on debenture stocks and bonds of the Co. ....	488,745 19 10
45,461	Interest on debenture stock and bonds of lines consolidated with the G.T. Co.	45,836 3 8
611,785		612,185 4 3
19,384	Amount advanced to the Detroit, Grand Haven and Milwaukee Co., towards the payment of interest on its bonds, under agreements, half-year to June 30 .....	10,414 18 7
631,169		622,600 2 10
124,610	Leaving a surplus of .....	285,033 9 2
£ 755,779		£ 907,633 12 0

Adding the balance of £6,618 13s. 6d. at the credit of net revenue account on Dec. 31, 1904, to the above surplus for the past half-year of £285,033 9s. 2d., the total amount available for dividend is £291,652 2s. 8d.,



## THE PINTSCH LIGHT AWARDED THE GRAND PRIZE ST. LOUIS, 1904

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MONTREAL

DRUMMOND, McCALL & CO.  
GENERAL SALES AGENTS

from which the directors recommend the payment of the following dividends, viz.:

Half-year's dividend on the 4% guaranteed stock	£135,597 19 1
Half-year's dividend on the first preference stock	85,420 15 0
Half-year's dividend on the second preference stock	63,210 0 4
	<u>£284,228 14 5</u>

leaving a balance of £7,423 8s. 3d. to be carried forward to next half-year's accounts.

The following table exhibits a comparison of the receipts for the half-years ending June 30, 1905 and 1904:

Description of Receipts.	1905.		1904.		Increase.		Decrease.	
	£	s.	£	s.	£	s.	£	s.
Passengers	741,480		661,240		80,240		1,417	
Mails and express	127,922		129,339					
Freight and live stock	1,781,685		1,666,101		117,584			
Miscellaneous	77,926		74,546		3,380			
Total	£2,729,008		£2,539,316		£189,692			

TRAFFIC STATISTICS.

Description of Receipts.	1905.		1904.		Increase.		Decrease.	
	£	s.	£	s.	£	s.	£	s.
Passengers carried	4,303,765		3,957,814		345,951			
Average fare per passenger	41.35d.		41.92d.				0.57d.	
Tons of freight and live stock	6,463,332		5,927,094		536,238			
Average rate per ton	65.15d.		67.36d.				2.21d.	
Tons carried one mile	1,255,101.395		1,120,081.776		135,019.619			
Earnings per train mile	69.73d.		66.64d.				3.09d.	

The average rate per ton per mile on the entire freight business was 0.69c., compared with 0.72c. in the corresponding half-year.

The working expenses, excluding taxes, amounted in the half-year to £1,901,753 or 69.69% of the gross receipts, as compared with £1,879,121, or 73.42%; an increase in amount of £22,632, but a decrease in the proportion to the gross receipts of 3.73%.

The following table exhibits a comparison of the revenue expenditure, including taxes, for the half-years ended the June 30, 1905 and 1904:

Description of Expenditure.	1905.		1904.		Increase.		Decrease.	
	£	s.	£	s.	£	s.	£	s.
Maintenance of way, and structures	268,664		246,575		22,089			
Maintenance of equipment	425,718		339,871		85,847			
Conducting transportation	1,131,487		1,225,754				94,267	
General expenses	75,884		63,921		11,963			
Taxes	21,684		16,448		5,236			
Total	£1,923,437		£1,891,979		£31,458			
Percentage of gross receipts	70.48		74.06				3.58	
Expenditure per train-mile	49.15d.		51.58d.				2.43d.	

The train mileage of the half-year compares with that for the half-year ending June 30, 1904, as follows:

Description of Mileage.	1905.		1904.		Increase.		Decrease.	
	£	s.	£	s.	£	s.	£	s.
Passenger	3,984,703		3,774,288		210,415			
Freight	5,103,671		4,733,697		369,974			
Mixed trains	303,930		312,244				8,314	
Total	9,392,304		8,820,199		572,105			

From the foregoing statements it will be

observed that the gross receipts for the half-year show an increase of £169,692, or 6.63%; the working expenses, including taxes, an increase of £27,868, or 1.47%; and the train mileage an increase of 572,105, or 6.49%.

The total charges to the capital account amounted for the half-year to £104,843 15s. 10d. Of this amount the sum of £9,229 13s. 2d. was for discount and commission on £300,000 4% guaranteed stock issued during the half-year.

The actual expenditure on capital account was as follows:—

New works	£ 14,708 13 7
Double track	49,078 3 7
Land purchased	31,827 5 6
	<u>£ 95,614 2 8</u>

No additions to the stock at the expense of capital have been made during the half-year. Five passenger and ten mogul compound freight engines and 1,000 box cars, chargeable to revenue, have been purchased, and 28 brake vans, two coal cars, and one ice scraper have been built in the company's shops during the half-year.

In continuation of the policy of doubling the line between Hamilton and Sarnia, it has been decided to proceed with the work between Komoka and Hyde Park Junction (5.83 miles), and considerable progress has been made, as also between Kingscourt Junction and Komoka (27.43 miles), and it is anticipated that the work on these sections will be completed and the double line available for traffic before next winter.

The gross receipts of the Grand Trunk Western Ry. for the half-year amounted to £512,995, against £506,147 in 1904, an increase of £6,848, and the working expenses were £429,438, against £432,874, a decrease of £3,436, leaving a net profit amounting to £83,557, against £73,273, an increase of £10,284, compared with the corresponding period of 1904. The net revenue charges for the half-year were £76,121 against £72,745, so that there was a net revenue surplus for the half-year of £7,436 as compared with a surplus of £528 for the corresponding half-year of 1904. Deducting the net revenue deficiency of £4,637 for the half-year ended Dec. 31, 1904, from the above surplus of £7,436 and adding thereto the balance of £634 carried forward on June 30, 1904, the net revenue balance June 30 last, amounts to £3,433, which will admit of the payment of 1% on the second mortgage income bonds. The number of passengers carried during the half-year was 763,066, against 764,030, a decrease of 964, or 0.13%; and the passenger train receipts, including mails and express receipts, were £133,197, against £133,746, a decrease of £549, or 0.41%. The quantity of freight moved during the half-year was 1,563,857 tons, against 1,375,720 tons, an increase of 188,137 tons, or 13.67%, and the receipts from this traffic were £379,172, against £371,786 in 1904, an increase of £7,386, or 1.99%.

The gross receipts of the Detroit, Grand Haven and Milwaukee Ry. for the half-year were £134,771 against £117,746 in 1904, an increase of £17,025; the working expenses were £107,980, against £100,078, an increase of £7,902; thus leaving a balance of £26,791, against £17,668, an increase of £9,123, compared with the corresponding half-year of 1904. The net revenue charges for the half-year were £37,206, against £37,051 in 1904, so that there was a net revenue deficiency of £10,415, as compared with £19,383 for the corresponding period of 1904. The number of passengers carried during the half-year was 265,035, against 278,409, a decrease of 13,374, or 4.80%; and the passenger receipts, including mails and express receipts, were £42,431, against

£40,238, an increase of £2,193, or 5.45%. The quantity of freight moved was 616,540 tons, against 503,702 tons in 1904, an increase of 112,838 tons, or 22.40%; and the receipts from freight traffic were £88,204, against £73,783 in 1904, an increase of £14,421, or 19.55%.

The work in connection with the surveys for the location of the Grand Trunk Pacific Ry. has been energetically pressed forward, and a considerable proportion of the line between Winnipeg and the Rocky Mountains, and also of the Lake Superior branch, has been definitely located. A contract on favorable terms has been let for the construction of 275 miles from Portage la Prairie, about 55 miles west of Winnipeg, to Touchwood Hills, and a contract will immediately be made for the construction of the Lake Superior branch.

The Chief Engineer reports that the expenditure for maintenance of the company's property during the half-year ended June 30 last was \$107,500.00 more than the corresponding period of last year. The company's permanent way and works have been maintained in good condition.

The Superintendent of Motive Power reports the expenditure, mileage, etc., as follows:—

Half-year ended.	Total Expenditure.	Train Mileage.	Rate of Expenses per Mile.		
			Train	Engine	Car.
June, 1905	\$3,841,987	9,392,304	40.91	31.82	2.65
" 1904	3,873,353	8,820,199	43.91	32.94	2.86

A decrease in expenditure of \$31,366.00 or 0.81% compared with an increase in train miles of 572,105, or 6.49%.

The average number of cars moved per train was	Passenger Trains			Freight Trains	Mixed Trains
	Trains	Engines	Cars		
And for the corresponding period	4.2	24.7	7.8		
	4.1	24.9	7.7		

During the half-year eight engines have been scrapped or sold. Five ten-wheel passenger engines and ten mogul compound freight engines have been purchased.

The actual stock at June 30, 1905, was 822 engines. Against the official figure of 803. Being a surplus of 19.

The revenue account was as follows:—

RECEIPTS.	1905.		1904.		Increase.		Decrease.	
	£	s.	£	s.	£	s.	£	s.
Passengers	741,480	6 5 6	661,240		80,240		1,417	
Mails and express	127,922		129,339					
Freight and live stock	1,781,685		1,666,101		117,584			
Miscellaneous receipts, rents, tolls, etc.	77,926		74,546		3,380			
Total	£2,729,008		£2,539,316		£189,692			

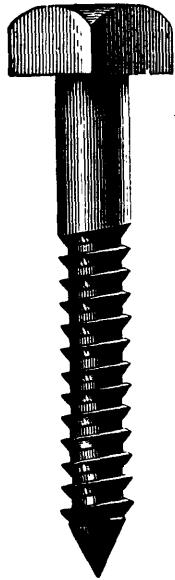
# TORONTO BOLT AND FORGING CO.

LIMITED

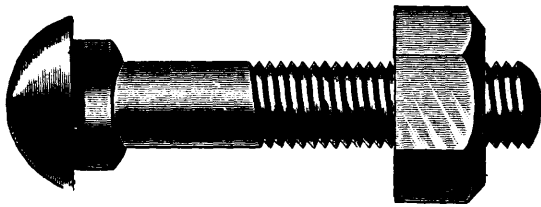
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Sailing from Philadelphia on Saturdays.

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Sailing from New York on Saturdays.

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MONTREAL TO AVONMOUTH DOCKS,  
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### LEYLAND LINE.

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urdays, at 10.30 a.m.

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EXPENDITURE, JUNE 30, 1905			
	£	s.	d.
Maintenance of way and structures	9.84%	268,664	7 8
Maintenance of equipment	15.60%	425,718	4 7
Conducting transportation	41.47%	1,131,486	10 6
General expenses	2.78%	75,883	18 8
<b>Total working expenses</b>	<b>69.69%</b>	<b>1,901,753</b>	<b>1 5</b>
Taxes	.79%	21,684	8 6
	<b>70.48%</b>	<b>1,923,437</b>	<b>9 11</b>
Balance to net revenue account		805,570	4 9
		<b>£2,729,007</b>	<b>14 8</b>

TRAIN MILEAGE.

June 30, 1904.	DESCRIPTION.	June 30, 1905.
3,774,258	Passenger trains	3,984,703
4,733,697	Freight trains	5,103,671
312,244	Mixed trains	303,930
<b>8,820,199</b>		<b>9,392,304</b>

At the meeting of shareholders in London, Eng., Oct. 12, Sir C. Rivers Wilson, President, congratulated the shareholders on the encouraging results and the prospects of the future. They were, he said, in excess of 1904, and compared favorably with 1903, which was a record year. He also congratulated the shareholders on their participation in the new G.T. Pacific line, and quoted from a speech of Sir Wilfrid Laurier, delivered at Quebec, describing the immense resources of the land through which the road would pass. Since the last report the revenue of the G.T.R. from July 1 to Sept. 7 shows £107,000 in excess of the corresponding period of last year, which was small. The Detroit and Toledo line had progressed, since its acquirement, far beyond anticipations. Formerly it did not pay the interest on the bonds, but now it is paying not only the charges, but clearing off arrears. Reverting to the G.T.P., the President said that the matter of the Winnipeg terminus would be settled in the course of a few weeks. Whether there will be a union station or not has not been decided. He also said that he had the assurance of the Canadian Government that they would commence work on the eastern division of the road immediately. The President also gave details of the terminals secured at Fort William, and a point on the Pacific 25 miles south of Port Simpson.

The report was adopted and the dividends recommended were approved.

Lake Superior Corporation.

The first annual report of the re-organized corporation owning the Sault Ste. Marie industries and railways, was presented at the annual meeting held in Jersey City, Oct. 4. It shows:

Interest on Investments, securities of subsidiary co's from net earnings	\$543,455.02
Net interest from banks, etc.	42,084.20
<b>Total</b>	<b>\$585,539.22</b>
Coupons paid 1st mortgage bonds outstanding	\$452,174.60
General expenses, taxes, etc.	98,562.14
<b>Total</b>	<b>550,736.74</b>
<b>Balance Cr. Profit and Loss</b>	<b>\$ 34,802.48</b>

ASSETS.

Investments and securities of subsidiary companies	\$51,201,928.15
Cash	76,094.92
Collateral security	150,000.00
Treasury bonds	956,879.42
Furniture and fixtures	353.82
Due from subsidiary companies (for advances)	1,531,542.60
<b>Total</b>	<b>\$53,916,798.91</b>

In addition to the bonds in the Treasury, there have been set aside and placed to the credit of the Algoma Central and Hudson Bay Railway Company: Cash, \$61,652.67; first mortgage bonds, \$345,000.00, to be used for the extension of its line.

LIABILITIES.	
Capital stock	\$40,000,000.00
First mortgage bonds	10,000,000.00
Income bonds	3,000,000.00
Bills payable	800,000.00
Canadian Improvement Co.	4,677.30
Coupons unpaid, nos. 1 and 2	25,900.00
Due subsidiary companies	29,399.61
Suspense account	22,019.52
Profit and loss, carried forward	34,802.48
<b>Total</b>	<b>\$53,916,798.91</b>

The principal portion of the report is devoted to a reference to the transfer of the different properties from the Receiver to the new company, the restoration of working conditions, and the settlement of old indebtedness. The report then proceeds to state that the output of the rail mill was 12,138 tons of steel rails, fully meeting the extreme requirements of the Canadian railways. The Algoma Central & Hudson Bay Ry. and the Manitoulin & North Shore Ry., and the fleet of steamers have been operated profitably, mostly in carrying company's freight. The two traction companies at the Canadian and Michigan Soos show some loss for the year. The traffic is increasing, however, and it is expected will show better results the coming year. During the year 98,822 tons of steel rails were manufactured, and there were 11,262 tons of rails in stock on June 30, 1905.

No particulars are given as to the earnings of any of the separate companies. The subsidiary companies are eleven in number, and include the Algoma Central and Hudson Bay Ry., Manitoulin and North Shore Ry., British America Express Co., International Transit Co., Trans-St. Mary's Traction Co., and Algoma Steel Co.

Central Vermont Ry. Co.'s Report.

The sixth annual report of the directors of this company, which is controlled by the G. T. R. Co., for the year ended June 30, gives the following particulars:—

Gross receipts	\$3,557,775.71
Operating expenses	2,793,736.51
<b>Balance</b>	<b>\$ 764,039.20</b>
Taxes	97,759.73
<b>Net earnings</b>	<b>\$ 666,279.47</b>
Other income, interest on securities held by the company	10,840.00
<b>Total income</b>	<b>\$ 677,119.47</b>
Interest on bonds, rentals of leased lines	673,449.62
<b>Net surplus over fixed charges</b>	<b>\$ 3,669.85</b>

The results of operation for the year, as compared with the previous year, have been as follows:

REVENUE.	
Receipts from all sources, increase	\$ 33,484.61
EXPENDITURE.	
Maintenance of way and structures, increase	\$ 120,134.95
Maintenance of equipment, increase	1,327.46
Conducting transportation, decrease	97,394.92
General expenses, increase	4,267.76
Total operating expenses, increase	28,335.25
Taxes, decrease	1,537.06
Fixed charges, increase	5,662.52
Improvements, included in operating expenses, increase	69,904.70

The operation of the road has been satisfactory, the property has been well maintained, and the cost of all additions and improvements, amounting to \$203,074.29, has been included in operating expenses. The Brattleboro and Whitehall Rd. Co. having failed to pay when due the first mortgage bonds held by the New London Northern Rd., the latter company instituted foreclosure proceedings in the United States Circuit Court for the District of Vermont. Under decree of foreclosure, the New London Northern Co. became the owners of the property, organized the West River Rd. Co. and transferred the road to that company. An agreement was entered into with the New London Northern

Rd. Co. providing for a continuance of your lease of the line and for the standard gauging of that portion of the road between West Dummerston and South Londonderry, the New London Northern Rd. Co. guaranteeing the first mortgage bonds of the West River Rd. Co. to the amount of \$75,000, the proceeds of which are to be used in the payment of the cost of widening the gauge. One thousand box cars of 60,000 lbs. capacity, two café-parlor cars, four coaches, two smoking and two baggage cars have been acquired under a car trust agreement. The total cost of this equipment was \$704,507.35, of which \$84,507.35 has been paid in cash, the remainder, \$620,000, to be paid in 40 consecutive quarterly instalments, for which the company's notes for \$1,000 each, bearing interest at 4½% per annum have been issued. Notes to the amount of \$16,000 mature on March 1 and September 1, and to the amount of \$15,000 on June 1 and December 1 of each year. Interest payable quarterly. The equipment was needed for the proper accommodation of the business and it is confidently expected that it will enable us to still further increase both our freight and passenger traffic.

The report is signed by C. M. Hays, President. From the reports of officers appended, the following information is extracted:—

E. H. Fitzhugh, Vice-President, states that there has been charged to operating expenses \$203,074.29, expended on improvements and extraordinary expenditures distributed as follows:—New bridges, \$123,884.25; new tracks, sidings and spurs, \$634.22; new fuel and water stations, engine houses and turntables, \$423.81; new stations and warehouses, \$7,945.78; new steel rails (difference between value of old rails taken up and new rails put down), \$33,811.09; ballasting, \$7,320.30; new locomotives, \$27,000; new cabooses, \$64.84; new air brakes, \$1,990. The train mileage was: passenger, 1,047,197; freight, 1,352,966; mixed, 178,196; miles earning revenue, 2,578,359; piloting, switching, light running and work trains, 711,289; total engine miles run, 3,289,648. The car mileage was: passenger, 4,788,372; freight, 30,763,034; total car mileage, 35,551,406. The percentage of expenses to earnings was 78.52% as compared with 78.47% in the preceding year, an increase of .05%. The percentage of improvements included in operating expenses to the earnings, was 5.71%, as compared with 3.78% in the preceding year. The percentage of ordinary expenses, to the earnings, was 72.81% as compared with 74.69% in the preceding year. The number of tons carried one mile was 267,815,068, an increase of 7,809,203; the earnings per freight train mile were \$1.60, an increase of 1.7c., and the earnings per ton per mile, 0.88c., a decrease of 0.02c. The number of passengers carried one mile, 42,393,798, shows an increase of 1,276,857; the earnings per passenger train mile, \$1.02, same as previous year, and the earnings per passenger mile, 2.29c., a decrease of 0.02c. Thirty-five miles of track on the 3rd district have been relaid with new 80 lb. rail, releasing 75 lb. rail, which has been relaid on the 1st district between Millers Falls and Palmer, and, with the exception of a few tons reserved for branch lines, the 56 lb. rail taken up has been sold. Passing track at Chadwick Hill on the Richford branch has been extended 300 ft., and 652 ft. of new sidings laid to industries along the line. Fourteen miles of track on the Richford branch have been ballasted with gravel. Twenty-one miles of track have been surfaced and 177,462 new ties put in. The line between West Dummerston and South Londonderry has been changed to standard gauge and the work of renewing bridges, strengthening embankments, reducing curvature, ballasting track, and renewing ties, is now under way and will be completed by Dec. 1. Under an agreement with the owners of the Bethel

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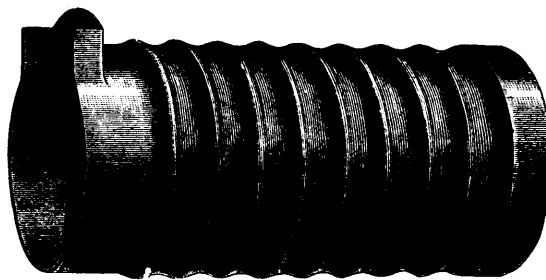
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Uniform Thickness, Easily Cleaned, Unexcelled for Strength, Unsurpassed for Steaming Capacity.

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MONTREAL, QUEBEC, ST. JOHN,  
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Give every satisfaction to shippers

Granite Ry., a spur line is being constructed from a point on the main line near Bethel, Vt., to the White Granite Quarries, five miles distant. Nine new Richmond type compound consolidation engines have been purchased and placed in freight service. During the year, 62 engines have received heavy, and 65 light repairs. Two café-parlor cars, four coaches, two smoking cars, two baggage cars and 1,000 30-ton capacity box cars have been acquired and placed in service. Twenty-five freight cars have been rebuilt, 18 equipped with air brakes, and 650 with pipe for train line. One combination passenger car has been rebuilt and one coach and one combination car received extensive repairs. The weather during the winter, was, as usual, quite severe and the cost of maintenance and operation consequently heavy, but by reason of a slight reduction in the cost of locomotive coal, and the use of the new engines and cars above referred to, a decrease of \$97,394.92 in the expense of conducting transportation, as compared with the preceding year, has been effected.

The company owns 483.6 miles of track, including 6.2 miles of double track, and 105.9 miles of yard tracks, sidings and spur tracks, and operates 206.9 miles of leased lines, including 47.4 miles of yard tracks, sidings and spur tracks.

The condensed balance sheet is as follows:

ASSETS.	
Cost of road and equipment	\$13,839,510.92
Bonds deposited with Trustee	1,000,000.00
Materials and supplies on hand	171,056.38
Cash on hand and in transit	140,323.94
Investment in bonds	267,779.68
Equipment renewals	628,635.19
Sundry accounts collectable:	
Due from agents	83,676.60
Due from U.S. and Canada, carrying mails	20,656.75
Due from sundry railroads and individuals	449,753.33
Advances fast freight line, account working fund	9,950.00
	<b>\$16,611,342.79</b>
LIABILITIES.	
First mortgage bonds	\$12,000,000.00
Common stock	3,000,000.00
Interest due	17,138.00
Interest accrued not due	78,641.17
Taxes accrued not due	57,360.33
Sundry accounts payable	
Vouchers and pay rolls	436,510.79
Sundry railroads and individuals	125,911.51
Notes payable	275,000.00
Car trust notes	605,000.00
Profit and loss	15,780.99
	<b>\$16,611,342.79</b>

At the annual meeting at St. Albans, Vt., Oct. 10, the report was adopted and the directors were re-elected. Following are the officers and directors for the current year:—President, C. M. Hays, Montreal; Vice-President, E. H. Fitzhugh, Montreal; other directors: G. C. Jones, F. C. Smith, St. Albans, Vt.; W. S. Webb, Shelburne, Vt.; J. W. Stewart, Middlebury, Vt.; J. G. McCullough, North Bennington, Vt.; E. H. Baker, H. B. Day, Boston, Mass.; S. E. Kilner, New York; A. Tuttle, Fairhaven, Vt.; C. P. Smith, Burlington, Vt. The only change in the directorate is that G. C. Jones, the General Manager, succeeds C. W. Wetters, the company's solicitor. W. H. Chaffee is Treasurer and Clerk; W. G. Crabbe, Auditor. The executive committee consists of C. M. Hays, Chairman; E. H. Baker and E. H. Fitzhugh.

**Canadian Northern Ry. Earnings, etc.**

Gross earnings, working expenses, net profits, increases or decreases over 1904-05, from July 1, 1905:			
Earnings.	Expenses.	Net Earnings.	Increase or Decrease.
July.. \$395,100	\$252,600	\$142,500	\$51,400+
Aug.. 357,900	246,200	111,700	12,200+
	\$753,000	\$254,200	\$63,600+

The average mileage in operation during this period was 1876 against 1,399 in 1904.  
Approximate earnings for Sept., \$378,500, against \$294,700 for Sept., 1904.

**C.P.R. Earnings, Expenses, etc.**

Gross earnings, working expenses, net profits, increases or decreases over 1903-04, from July 1, 1904:—

Earnings.	Expenses.	Net Profits.	Increase or Decrease.
July \$4,629,174.95	\$2,991,397.29	\$1,449,652.14	\$188,125.52+
Aug. 4,796,733.98	3,005,688.07	1,791,645.91	263,154.87+
	\$9,425,908.93	\$5,996,485.36	\$3,429,423.57
		\$451,841.00+	

Approximate earnings for Sept., \$4,816,000 against \$4,171,000 for Sept., 1904.

DULUTH, SOUTH SHORE AND ATLANTIC RY.—Gross earnings for Aug., \$285,221.01; net earnings, \$103,964.63 against \$237,229.27 gross and \$91,407.40 net for Aug., 1904. Net earnings for two months ended Aug. 31, \$206,775.40 against \$178,624.90 for same period 1904. Approximate earnings for Sept., \$266,458 against \$231,406 for Sept., 1904.

MINERAL RANGE RY.—Approximate earnings for Sept., \$66,717, against \$55,947 for Sept., 1904.

MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RY.—Gross earnings for Aug., \$916,308.44; net earnings, \$503,996.73 against \$609,577.89 gross and \$265,271.92 net for Aug., 1904. Net earnings for two months ended Aug. 31, \$849,015.05 against \$569,439.61 for same period 1904. Approximate earnings for Sept., \$942,831 against \$752,992 for Sept., 1904.

**Canadian Pacific Railway Land Sales.**

	Acres.		Amount.	
	1905.	1904.	1905.	1904.
July..	58,477.37	36,425.75	\$304,795.23	\$177,473.94
Aug..	58,542.44	15,669.90	327,579.63	88,735.88
Sept..	111,479.71	16,470.02	556,642.64	73,642.96
	228,499.52	68,565.67	\$1,189,017.50	\$339,852.78

**Grand Trunk Ry. Earnings, Expenses, etc.**

The following statement of earnings, supplied from the Montreal office, includes the G.T. of Canada, the G. T. Western, and the Detroit, Grand Haven & Milwaukee Rys.

	1905.	1904.	Increase.	Decrease.
July.....	\$3,059,675	\$3,013,149	\$46,526	.....
Aug.....	3,301,254	3,168,137	193,117	.....
Sept.....	3,409,363	3,182,972	226,391	.....
	\$9,770,292	\$9,364,258	\$406,034	.....

The following figures relate to the individual lines, and are made out in sterling:

**GRAND TRUNK RY. CO.**

Revenue for Aug.:				
	1905.	1904.	Increase. Decrease.	
Gross receipts	£545,800	£530,300	£15,500	.....
Working expenses	369,000	354,300	14,700	.....
Net profit	£176,800	£176,000	£800	.....
Aggregate from July 1 to Aug. 31:				
Gross receipts	£1,065,600	£1,047,800	£17,800	.....
Working expenses	724,400	708,300	16,100	.....
Net profit	£341,200	£339,500	£1,700	.....

**GRAND TRUNK WESTERN RY. CO.**

Revenue for Aug.:				
	1905.	1904.	Increase. Decrease.	
Gross receipts	£100,700	£75,500	£25,200	.....
Working expenses	80,700	74,600	6,100	.....
Net profit	£20,000	£900	£19,100	.....
Aggregate from July 1 to Aug. 31:				
Gross receipts	£181,900	£150,400	£3,500	.....
Working expenses	156,300	149,000	7,500	.....
Net profit	£25,600	£1,400	£24,200	.....

**DETROIT, GRAND HAVEN & MILWAUKEE RY. CO.**

Revenue for Aug.:				
	1905.	1904.	Increase. Decrease.	
Gross receipts	£31,700	£32,800	£1,100	.....
Working expenses	19,400	20,600	1,200	.....
Net profit	£12,300	£12,200	£100	.....
Aggregate from July 1 to Aug. 31:				
Gross receipts	£60,200	£59,500	£700	.....
Working expenses	39,200	39,300	£100	.....
Net profit	£21,000	£19,900	£1,100	.....

Aggregate from July 1 to Sept. 30:				
	1905.	1904.	Increase. Decrease.	
Grand Trunk	£1,634,980	£1,586,950	£48,030	.....
G. T. Western	287,146	237,227	49,919	.....
D. G. H. & M.	86,211	87,656	1,445	.....
Total	£2,008,337	£1,911,833	£96,504	.....

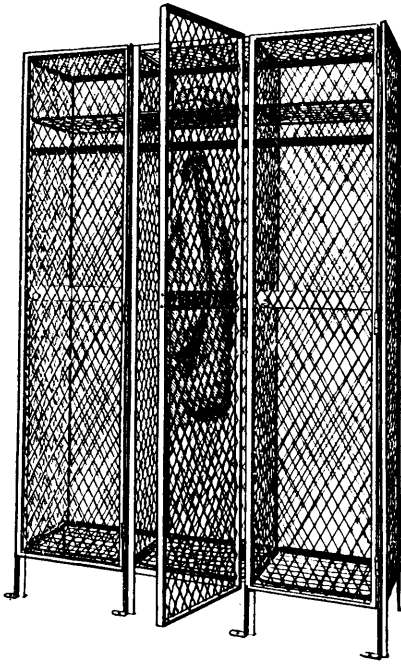
**Canadian Freight Association.**

The usual quarterly meeting was held in Montreal, Oct. 5, when R. L. Burnap, G.F.A., Central Vermont Ry., St. Albans, Vt.; R. W. Youngs, Division Freight Agent, Pere Marquette Rd., London, Ont., and G. L. Nelson, Division Freight Agent, G.T.R., Portland, Me., were elected active members. W. P. Hinton, formerly General Freight and Passenger Agent Canada Atlantic Ry., having been appointed to the G.T.R. passenger department, resigned as an active member and member of the Advisory Committee, and was elected an honorary member.

B. B. Mitchell, General Freight Traffic Manager, Michigan Central Rd., was elected to succeed W. P. Hinton, on the Advisory Committee, and J. E. Dalrymple, General Freight Agent G.T.R., was elected a member of the Classification Committee.

The Association passed the following resolution: Whereas, Mr. John Earls, our Secretary-Treasurer, has resigned, and, whereas, in response to the expressed sentiment of the members it is desired that a fitting tribute be paid to his work, it is resolved, that the Association hereby place on record their appreciation of his long, faithful and intelligent services, of his wise counsels, of the unfailing courtesy which he has shown to the members individually, and of his fairness and impartiality in conducting its proceedings. To his lasting honor be it remembered that no railway officer in active service in Canada has had a longer term of service in the freight traffic work, that he has had an important part in the development of the railway traffic and industrial interests of Canada, and to that he has given the best years of his life. While in the service of the Grand Trunk Railway from 1862 to 1896, a period of 34 years, in addition to his regular duties, which were often complex and arduous, he freely gave of his time and ripe experience to the work of compiling, in the interests of all the railways of Canada, many of the freight traffic regulations, the freight rate schedules which form the basis of many of our present freight tariffs, as well as the Canadian Freight Classification, becoming a most distinguished authority on that technical work. He was one of the founders of the Canadian Freight Association, becoming in April, 1896, its first Secretary-Treasurer, which office he held with distinction until August, 1905. During his railway career he has witnessed the remarkable development of the vast railway systems of Canada, and, as much as any one man, has assisted in framing the legislation of the Association and of its various committees, which has proven so important an element in harmonizing competing interests and giving to the public the benefit of fair and uniform traffic regulations. While severing official ties, we wish him and his family still many years of life and happiness.

The abstraction of water above the falls at Niagara Falls, Ont., and N.Y., for power development purposes, according to several authorities is likely to lessen, to an appreciable extent, the quantity of water going over the falls. An alternative proposition has been suggested to the present one of taking water from the upper river through tunnels to the power houses on the lower river, and that is to erect a dam at the terminus of the escarpment, just above Lewiston, N.Y. The writer of the article referred to says that a dam 1,000 ft. long would raise the water in the river 100 ft. without changing the elevation of the pool at the foot of the cataract. The basin provided by the embankment, he claims, would supply a practically permanent and unvarying force of 1,500,000 h.p.



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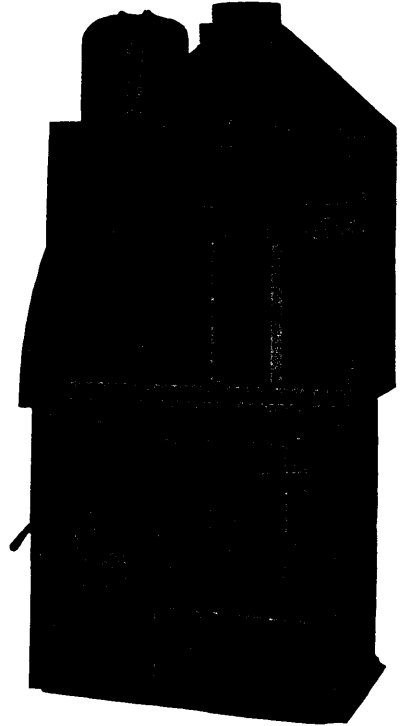
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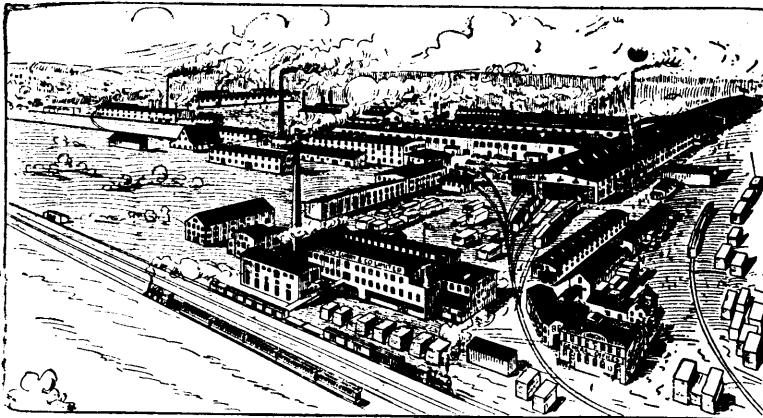
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## G.T.R. Subsidiary Companies.

The annual meetings of the various subsidiary companies of the G.T.R. in the United States were held in Detroit recently. The several companies, being almost wholly owned by the G.T.R., do not issue reports and statements of accounts to the public. Following are the directors for the current year:—

GRAND TRUNK WESTERN RY.—C. M. Hays, E. H. Fitzhugh, F. H. McGuigan, Montreal; W. J. Spicer, Detroit, Mich.; A. Dixon, Chicago, Ill.; A. W. Wright, Saginaw, Mich.; L. R. Reid, Valparaiso, Ind. CHICAGO, DETROIT AND GRAND TRUNK JCT. RY.—C. M. Hays, E. H. Fitzhugh, W. H. Biggar, K.C., J. W. Loud, Montreal; A. Dixon, Detroit.

DETROIT, GRAND HAVEN AND MILWAUKEE RY.—C. M. Hays, E. H. Fitzhugh, F. H. McGuigan, Jos. Hobson, J. W. Loud, Montreal; W. J. Spicer, J. Pridgen, jr., A. P. Sherrill, A. B. Atwater, Detroit. GRAND TRUNK JCT. RY.—C. M. Hays, E. H. Fitzhugh, J. W. Loud, Montreal; F. A. Howe, Chicago; W. J. Spicer, Detroit.

TORONTO, SAGINAW AND MUSKOGON RY.—C. M. Hays, E. H. Fitzhugh, F. H. McGuigan, J. W. Loud, Montreal; C. J. Church, C. W. Middleton, Greenville, Mich.; A. F. Temple, Muskegon, Mich.

MICHIGAN AIR LINE RY.—C. M. Hays, E. H. Fitzhugh, W. H. Biggar, K.C.; J. W. Loud, Montreal; W. J. Spicer, Detroit.

ST. CLAIR TUNNEL CO.—C. M. Hays, E. H. Fitzhugh, F. H. McGuigan, W. H. Biggar, K.C., Jos. Hobson, J. W. Loud, Montreal; W. J. Spicer, Detroit.

INTERNATIONAL BRIDGE CO.—C. M. Hays, E. H. Fitzhugh, F. H. McGuigan, W. H. Biggar, K.C., Jos. Hobson, J. W. Loud, Montreal; H. W. Sprague, Buffalo, N.Y.

**Mackenzie, Mann & Co.'s Eastern Lines.**—C. W. Spencer, General Manager, has opened offices in the Imperial Bank Building, 286 St. James St., Montreal. The offices of Guy Toombs, General Freight and Passenger Agent, Great Northern Ry. of Canada, have been moved from the corner of Moreau and St. Catharine streets; and the office of R. H. Bell, Travelling Freight and Passenger Agent, has been moved from the Board of Trade Building to the Imperial Bank Building. The construction engineer's office for the Quebec portion of the system will also be located there.

The Canadian Fairbanks Co. has completed its contract with the Canada Car Co., Montreal, for shafting, universal giant hangers, Oneida split pulleys, couplings, rawhide pinions and other transmission material.

The Pratt & Whitney Co., of Hartford, Conn., has purchased a plant in Dundas, Ont., for the manufacture of its full line of small tools, taps, reamers, milling cutters, punches, dies, etc. The building is a modern structure and the power plant is already in place. The machinery equipment is being got ready and will be sent there and operations begun immediately. This plant will also include a department for manufacturing a full line of twist drills, an equipment of machinery having been purchased for this purpose. The output of this new factory will be handled by The Canadian Fairbanks Co., Ltd., which will have the exclusive sales agency for Canada.

The 33rd annual convention of the American Association of General Passenger Agents was held in Mexico City, Mexico, Oct. 17, and following days. Among the items of business to be transacted were the approval of a resolution prepared by a committee expressive of appreciation of the 25 years' services as Secretary, of A. J. Smith, now Vice-President; and reports from auxiliary associations. The Canadian Ticket Agents' Association was not represented on this occasion, its annual convention being in session in Portland, Me., at the same time; neither was the American Association of Baggage Agents, of which J. E. Quick, Toronto, is Secretary, represented. Of the new business one important matter considered was the representation of Canadian lines on Standing Committees.

## Railway Equipment Notes.

The C.P.R. has placed an order for two 3½ yard Atlantic type steam shovels with the Locomotive and Machine Co. of Montreal.

We are officially advised that the press report to the effect that the G.T.R. will at once order 2,000 freight cars in the W.S. is erroneous.

The Central Vermont Ry. has arranged to place orders for additional freight cars and engines, but has not definitely decided as to the number of each required.

The Intercolonial Ry. has placed an order for five sleeping and baggage cars, and 75 box cars, 60,000 lbs. capacity, with the Crossen Car Manufacturing Co., Cobourg, Ont.

The Salisbury and Harvey Ry. does not propose purchasing any more rolling stock this year. It was reported recently as likely to be in the market for additional cars, etc., at an early date.

The Boston and Maine Rd. includes among its rolling stock 10 passenger and four baggage cars, 30.50% of which is owned by the Boston and Lowell Rd., 31.67% by the C.P.R., and 37.83% by the Concord and Montreal Rd.

The Intercolonial Ry. between Sept. 18 and Oct. 17 added four first-class passenger coaches to its rolling stock from Rhodes, Curry and Co., Amherst, N.S. The I.C.R. is not at present in the market for any additional rolling stock.

The Canadian Northern Ry. has placed orders for four locomotive tenders having a capacity of 5,000 imp. galls; and 10 tons of coal, from the Canada Foundry Co., Toronto. These tenders will be built on steel channel frames and have Simplex truck bolsters, and Susemihl roller side bearings.

The Intercolonial Ry. is reported to have placed orders for 40 locomotives—16 Pacific type passenger locomotives with the Locomotive and Machine Co., of Montreal; 20 consolidation freight locomotives with the Canadian Locomotive Co., Kingston, Ont.; and four switching locomotives with the Canada Foundry Co., Toronto.

The C.P.R. recently utilized natural gas for lighting the Governor-General's car, while on the Western Division. The gas was supplied at Medicine Hat, Alta. No action has, we are advised, been taken in the direction of having the cars on the Crow's Nest Pass line lighted by natural gas, or in the way of the adoption of the gas generally as press reports had stated.

The Canadian Northern Ry. has received the following additional rolling stock: 200 box cars, 30-ton capacity, 100 from Rhodes, Curry & Co., Amherst, N.S., and 100 from the Crossen Car Manufacturing Co., Cobourg, Ont.; five vestibuled day coaches from the Crossen Car Manufacturing Co., and three 60 ft. baggage cars on the C.N.R. standard 80,000 lbs. capacity trucks from Rhodes, Curry & Co.

The Canada Car Co., Montreal, has begun work on an order for 1,000 box cars, 30-ton capacity, for the Grand Trunk Ry. These cars are to be 37 ft. long, 9 ft. 1 in. wide, and 13 ft. 4 in. high. The company has also on hand an order for 50 passenger coaches for the G.T.R., and for box cars for the Grand Trunk Pacific Ry., to be duplicates of those under construction for the G.T.R.

The G.T.R. has placed an order for 15 consolidation and 10 10-wheeled locomotives with the Locomotive and Machine Co. of Montreal. The designs have not yet been fully worked out in all their details, but they are to be more on the lines of the Central Vermont Ry. consolidations and 10-wheelers, and are at the same time to conform, as far as possible, to the former G.T.R.

standards in details and shop practice. The consolidations are to be Richmond compounds, and are to be a departure from the company's former standard mogul locomotives. The 10-wheelers are to be simple, and lighter than the former G.T.R. standard 10-wheelers.

Following are general specifications of the 15 10-wheel locomotives, for which the C.P.R. has placed an order with the Canadian Locomotive Co., Kingston, Ont.:

WEIGHT.—In working order, on drivers, 142,000 lbs.; total, 190,000 lbs.; tender, loaded, 126,000 lbs.

WHEEL BASE.—Rigid, 14 ft. 10 in.; total, 26 ft. 1 in.; and tender, 54 ft. 6 in.

WHEELS.—Diameter of driving wheels, 63 in.; centers, 56 in.; material, cast steel.

JOURNALS.—Driving, main, 9½ by 12 in.; f. and b., 9 by 12 in.

CYLINDERS.—Diameter, 21 in.; stroke, 28 in.

BOILER.—Type, radial stayed with wide fire box; working pressure, 200 lbs.; no. of tubes and diameter, 248-2 in., and 22-5 in.; length, 14 ft. 8 in.

TENDER.—Style of tank, hopper bottom; water capacity, 5,000 imp. galls.; coal capacity, 10 tons; style of truck, 4-wheels; diameter of wheels, 34 in.; bend of wheels, wrought iron centres, steel tire; diameter and length of journals, 5½ by 10 in.

SPECIAL FITTINGS.—Simplex brake beams. Simplex bolster, Susemihl side bearings to tender, C.P.R. superheater and Westinghouse American brakes to engine.

The Locomotive and Machine Co., of Montreal, is building for the C.P.R. 35 freight and passenger locomotives of the 10-wheel "700" class, delivery to be made at the rate of three per week from Jan. 1, 1906. These locomotives are exact duplicates of the 30, delivery of which has just been completed, the specifications of which follow:—

CYLINDERS.—Type, piston; diameter, 21 in.; stroke, 28 in.; piston rod, 3½ in. diameter.

TRACTIVE POWER.—33,320 lbs.

WHEEL BASE.—Driving, 14 ft. 10 in.; rigid, 14 ft. 10 in.; total, 26 ft. 1 in.; engine and tender, 54 ft. 6 in.

WEIGHT.—In working order, 190,000 lbs.; on drivers, 142,000 lbs.; engine and tender, 316,000 lbs.

HEATING SURFACE.—Tubes, 2,234 sq. ft.; firebox, 166 sq. ft.; arch tubes, 28 sq. ft.; total, 2,428 sq. ft.; grate area, 50 sq. ft.

AXLES.—Driving journals, main, 6 x 10 in.; engine truck journals, diameter, 6 x 10 in.; tender, 5½ x 10 in.

BOILER.—Type, extended wagon top, radial stayed; outside diameter first ring, 70½ in.; working pressure, 200 lbs.; fuel, bituminous coal.

FIREBOX.—Type, wide; length, 102½ in.; width, 69½ in.; thickness of crown, ¾ in.; tube, ¼ in.; sides, 5-16 in.; back, ¾ in.; water space, front, 5 in.; sides, 4½ in.; back, 3½ in.

TUBES.—No. 244, of 2 in. diameter, and 44 of 5 in. diameter; length, 14 ft. 4 in.

BOXES.—Driving and others, cast steel.

BRAKE.—Driver and tender, Westinghouse; air signal, Westinghouse; pump, 11 in. left hand; reservoir, 50,000 cubic inches.

ENGINE TRUCK.—Four wheel.

GRATE.—C.P.R. cast iron rocking.

SMOKE STACK.—Diameter, 14½ in. inside; top above rail, 15 ft. 2 in.

TENDER.—Frame, C.P.R. standard; tank, water bottom; tank capacity, 5,000 imperial gallons; fuel capacity, 10 tons.

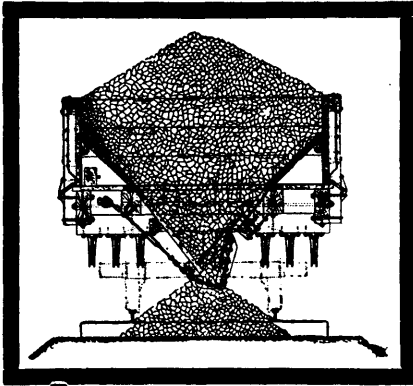
VALVES.—Travel, 6 in.; steam lap, 1½ in.; ex. lap, 3-32 in.; setting, line and line.

WHEELS.—Driving, diameter, outside tire, 63 in.; centres, diameter, 56 in.; material, cast steel; engine truck, diameter, 31 in.; kind, C.P.R. standard; tender, 34 in.; wrought iron disc.

In reference to the withdrawal of export freight rates from Ontario over the Intercolonial Ry. to Maritime Province ports, about which the Halifax Board of Trade recently complained, we are informed that the rates were withdrawn by the G.T.R. because of an order received from the Railway Commission, under which a new basis of export rates was made to apply. The new rates have been in effect since the beginning of Oct.

The Robb Engineering Co., Amherst, N.S., has recently supplied the following engines and boilers: a 300 h.p. Robb-Armstrong tandem engine, Canadian Northern Coal and Ore Dock Co., Port Arthur, Ont.; two 400 h.p., one 350 h.p., and three 100 h.p. Robb-Armstrong Corliss engines, J. R. Booth, Ottawa; two 350 h.p. Robb-Armstrong vertical engines for the Napanee, Ont., municipal lighting plant; two 100 h.p. boilers and one 150 h.p. engine to W. K. Lowden, St. Lambert, Que.





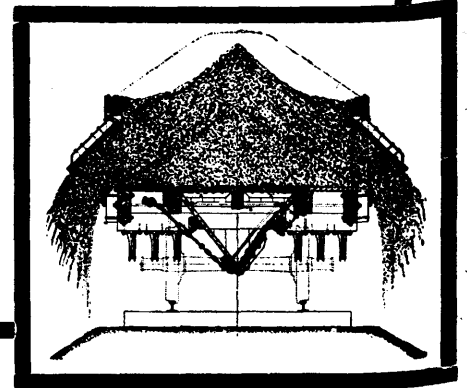
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Full information at the Company's Offices, Winnipeg, or 1 Lime St., London, E.C.

### Canadian Ticket Agents' Association.

The annual trip of the Canadian Ticket Agents' Association, which took place this year to Portland, Me., while not nearly the most largely attended, was certainly one of the most pleasant in the Association's history. Perfect weather, excellent arrangements and an exceedingly hearty welcome by the people of Portland, combined to make the trip one that will long be remembered by those who were fortunate enough to participate in it. The party numbered 121, of whom 42 were ladies. The attendance on the three previous trips was as follows: 1902, Washington, D.C., 210; 1903, Sydney, N.S., 128; 1904, St. Louis, Mo., 206. The following members went on the Portland trip: T. E. Attwood, C.P.R., Walkerton; A. H. Baird, C.P.R., Paris; R. A. Bennett, G.T.R., Smith's Falls, and wife; W. F. Bleecker, C.P.R., Marmora, and wife; J. L. Boyes, G.T.R., Napanee, and wife; A. C. Brown, C.P.R., Guelph, and wife; F. W. Buggey, G.T.R., Whitney, and wife; W. Bunton, G.T.R., Peterboro'; Alex. Calder, C.P.R., Winnipeg, wife and daughter; B. Caswell, C.P.R., Smith's Falls; R. Clanahan, C.P.R., Glencoe, and wife; W. H. Clancy, G.T.R., Montreal; J. Clark, C.P.R., Renfrew, and wife; C. R. Coleman, C.P.R., Truro, N.S.; Capt. G. C. Coles, C.P.R., Collingwood; R. Cox, C.P.R., Enterprise; R. J. Craig, C.P.R., Cobourg, and wife; E. de la Hooke, G.T.R., London, and wife; J. F. Dolan, Richelieu and Ontario Navigation Co., Montreal, and wife; F. B. Edgcombe, C.P.R. and I.C.R., Fredericton, N.B., and wife; A. W. Flack, G.T.R., Cornwall, and wife; C. H. Foss, G.T.R., Sherbrooke, and wife; A. Grant, C.P.R., Perth; J. P. Hanley, G.T.R., Kingston; F. E. Hanington, I.C.R. and C.P.R., St. John, N.B., and wife; A. M. Hare, G.T.R., and Wabash Rd., Tillsonburg, and wife; W. H. Haynes, G.T.R., Campbellford; F. R. Hodgins, G.T.R., Clinton, and wife; C. E. Horning, G.T.R., Toronto, and wife; T. Howard, C.P.R., Hastings; E. E. Hurdle, C.P.R., Sault Ste. Marie; J. H. Jackson, C.P.R., Georgetown; W. Jackson, C.P.R., Clinton, and wife; G. A. Joyce, C.P.R., Woodstock; J. Kidd, C.P.R., Goderich, and wife; G. D. LaCourse, G.T.R., Berlin; T. Long, C.P.R., Port Hope, and wife; C. H. McDougall, C.P.R., Walkerton; R. Macfarlane, C.P.R., Durham; W. H. McFarlane, C.P.R., Paisley, and wife; W. Mellroy, C.P.R., Peterboro'; W. H. C. Mackay, C.P.R., St. John, N.B.; M. McNamara, G.T.R., Walkerton, and wife; J. Meekison, C.P.R., Strathroy, and wife; H. W. Mills, G.T.R., Sarnia, and wife; W. B. Moorhouse, C.P.R., Sault Ste. Marie; F. C. Muller, Michigan Central Rd., Springfield; C. A. Nettleton, C.P.R., Penetanguishene, and wife; F. A. Parent, G.T.R., Casselman, and wife; R. J. Parker, G.T.R., Forest; H. J. Pettypiece, C.P.R., Forest, and daughter; J. T. Rhind, Stewiacke, N.S., and wife; A. C. Rorabeck, G.T.R., North Bay, and wife; C. H. Rose, Bay of Quinte Ry., Tamworth, and wife; W. J. Taylor, G.T.R., Tweed; B. Travers, G.T.R., Paris, and wife; J. L. Thomson, Prince Edward Island Ry., Charlottetown, P.E.I., wife and daughter; B. H. Turner, C.P.R., Little Current, and wife; C. L. VonGunten, G.T.R., Blenheim; S. Wagar, C.P.R., Tamworth; H. F. Whittier, G.T.R., Trenton, and wife; F. W. Wood, C.P.R., Campbellford.

The following were guests of the Association: J. N. Bastedo, P.A. Sante Fe Rd., Detroit Mich.; B. H. Bennett, G.A., Chicago and Northwestern Ry., Toronto; M. H. Bohrer, D.P.A., Mobile and Ohio Rd., Chicago, and wife; W. T. Dockrill, T.P.A., Canadian Pacific Ry., Toronto, and daughter, Mrs. McRae; L. Drago, C.P.A., New York Central Rd., Toronto; C. B. Foster, D.P.A., Canadian Pacific Ry., Toronto; J.

O. Goodsell, T.P.A., Union Pacific Rd., Toronto; D. W. Hatch, T.A., Sante Fe Rd., Montreal; F. T. Hendry, G.A., Santa Fe Rd., Detroit, Mich.; A. Lalonde, C.P. & F.A., Boston & Maine Rd., Montreal; F. R. Perry, D.P.A., Canadian Pacific Ry., St. John, N.B.; J. J. Rose, T.P.A., Canadian Pacific Ry., Toronto; J. W. Shaw, M.D., Clinton, Ont., and wife; A. C. Turpin, G.A.C.D., Chicago, Rock Island and Pacific Ry., Buffalo, N.Y., and wife; J. A. Yorick, C.P. & F.A., Chicago, Burlington and Quincy Ry., Toronto, and Acton Burrows, Publisher of THE RAILWAY AND SHIPPING WORLD, the official organ of the Association.

The party assembled at Montreal, leaving there on Saturday, Oct. 14, at 8 a.m., in a special train of vestibuled cars on the G.T.R. A stop of 15 minutes was made at Richmond, Que., and Gorham, N.H., was reached at 2.20 p.m., and an hour's stop made for dinner at the Mount Madison hotel. Portland was reached half an hour ahead of time, at 5.30, after a very pleasant run, the scenery of the eastern townships of Quebec and of Vermont, New Hampshire and Maine being much appreciated. The G.T.R. was represented by H. G. Elliot, A.G.P.A., and J. Quinlan, D.P.A., Montreal; J. J. Conelly, Trainmaster, Island Pond, Vt., who was in direct charge of the train, and G. C. Cobb, Road Foreman of Engines. At Groveton, N.H., the party were met by R. W. Scott, C. W. T. Goding, H. A. Snow and H. B. Coe of the Portland reception committee, and by one of the clerks of the New Falmouth hotel, the party's headquarters. At Mechanic Falls the train was boarded by British Vice-Consul J. B. Keating. On the arrival of the train at Portland the party were met by other members of the local committee, and immediately escorted to special electric cars and taken to the hotel, where they were roomed in a few minutes owing to the excellent advance arrangements. The hotel clerk who got on the special train at Groveton had with him cards bearing the names and room numbers of those who had secured accommodation in advance, for the others he allotted rooms, and when the hotel was reached there was no delay, the guests not even requiring to register but going direct to their rooms. This systematic arrangement was typical of the whole experience of the party at the New Falmouth. The rooms were very comfortable, the meals excellent and the entire staff unremitting in polite attention. The opinion very generally expressed was that the hotel accommodation was about the most satisfactory ever secured by the Association, and in marked contrast to the Ebbitt House, at Washington, which will ever remain as an unpleasant recollection to most of those who stayed there in 1902. The visitors were much pleased by seeing a British flag displayed alongside the Stars and Stripes on the G.T.R. station at Portland, and also on the New Falmouth Hotel. In addition to the courtesy extended by the Portland Rd. Co., the Chase Transfer Co. conveyed the party's baggage to and from the hotel free.

On the Saturday evening a majority of the party attended either the Jefferson or Portland theatre. Sunday was spent quietly, many attending church services, the larger number going in the morning to St. Stephen's Episcopal Church, on the invitation of F. E. Boothby, G.P.A. Maine Central Rd.

On Monday, Oct. 16, the party proceeded to the Council Chamber of Portland City Hall at 9.30 a.m., where they were introduced by R. W. Scott to Mayor Baxter, who officially welcomed them on behalf of the city. C. F. Libby and British Vice-Consul Keating also extended welcomes, W. H. C. Mackay responding on behalf of the Association.

### THE NINETEENTH ANNUAL MEETING

was held at the New Falmouth Hotel at 10.30 a.m., Vice-President W. H. C. Mackay in the chair. After routine Secretary-Treasurer de la Hooke read his annual report, pointing out that 1904 was the banner year for membership, when the record number of 199 was reached, no doubt in some measure attributable to the popularity of the St. Louis trip. During the past year 18 new members had been enrolled, but 34 had retired, either by non-payment of subscriptions or from other causes, making the present membership 183. "Surely," said the Secretary, "\$2 a year should not keep an agent, once a member, from continuing as such, even if it is not convenient for him to join in every outing. Every member gets monthly a copy of THE RAILWAY AND SHIPPING WORLD, and as this up-to-date journal is published at \$1 a year, a member's subscription to the Association is but \$1 a year." Feeling references were made to the deaths of A. H. Notman, of the C.P.R.; C. Cameron, of Collingwood; A. P. Cockburn, of the Muskoka Lakes Navigation and Hotel Co., and Senator Fulford, of Brockville, who was one of the oldest members of the Association. The receipts, including balance brought forward, were \$646.20, and the expenses \$441.67, leaving a balance of \$204.53.

M. McNamara gave an interesting and humorous account of the meeting of the American Association of General Passenger Agents at Old Point Comfort, Va., in Oct., 1904. In reference to the business aspects of the meeting he said: "I did my best to convince the Association that Canadian ticket agents should be paid for selling tickets over their lines. They listened to my arguments with attention, but failed to show any sympathetic interest in our grievances. It is possible that business conditions may hereafter arise which will make it to the interest of the United States companies to pay us for the services we render them, but present indications in that direction are by no means hopeful." Mr. McNamara's report was very favorably received, and he was accorded a hearty vote of thanks for the excellent manner in which he had represented the Association.

Vice-President Mackay expressed the regret of the members at the unavoidable absence of President Morgan. In reviewing the Association's work he suggested the introduction of more business features at the annual meetings by reading of papers, etc. The suggestion having been discussed, the executive committee was requested to carry it into effect.

A resolution was adopted expressing regret at the death of Senator Fulford, and the Secretary immediately telegraphed it to the widow at Boston.

The election of officers resulted as follows: President, W. Bunton, G.T.R., Peterboro', Ont.; 1st Vice-President, W. McIlroy, C.P.R., Peterboro'; 2nd Vice-President, C. R. Coleman, C.P.R., Truro, N.S.; 3rd Vice-President, R. J. Craig, C.P.R., Cobourg, Ont.; Secretary-Treasurer, E. de la Hooke, G.T.R., London, Ont.; Auditor, F. R. Hodgins, G.T.R., Clinton, Ont.; Executive Committee, W. Jackson, C.P.R., Clinton, Ont.; J. P. Hanley, G.T.R., Kingston, Ont.; C. E. Horning, G.T.R., Toronto; J. F. Dolan, R. & O. N. Co., Montreal; W. Maughan, C.P.R., Toronto. At a subsequent meeting of the Executive Committee W. Jackson was elected chairman.

The home of the poet Longfellow in Portland was specially opened to allow the party to visit it.

### THE ANNUAL DINNER.

was held at the New Falmouth Hotel on Monday evening, Oct. 16. Vice-President Mackay occupied the chair, and had with him at his table a number of prominent



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BETWEEN

Winnipeg and Port Arthur

Leave Winnipeg 4 p.m. Arrive Port Arthur, 8.30 a.m. } DAILY { Leave Port Arthur, 6.50 p.m. Arrive Winnipeg, 11.30 a.m.

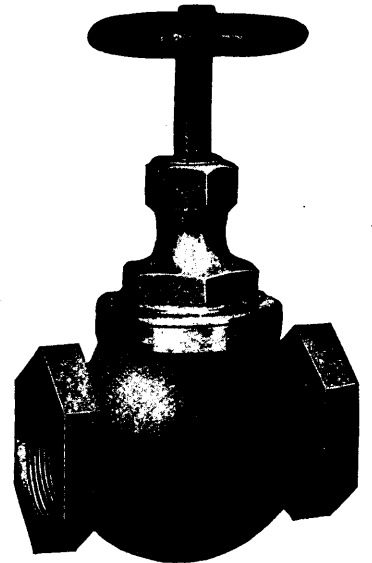
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COACHES OF LATEST DESIGN  
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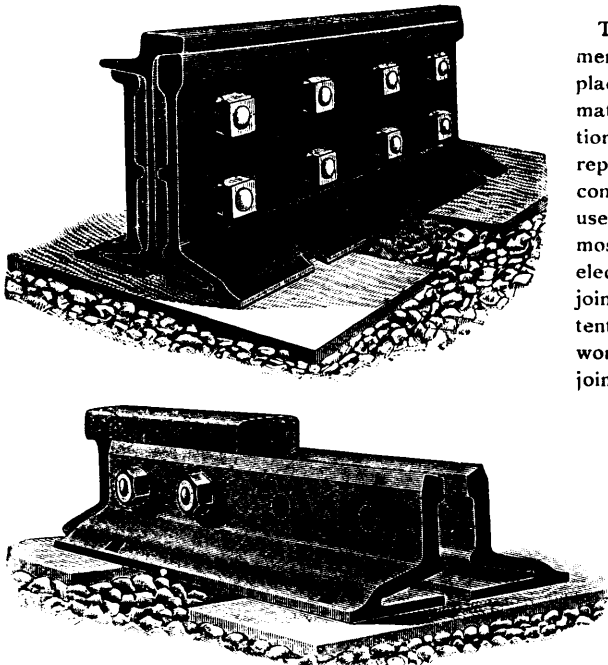
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The day has passed when men of finance are willing to place their money into bad material in railroad construction only to be compelled to replace it by renewals or reconstruction after very little use. Many of the best and most successful steam and electric railroads use the rail joints of the Continuous patent type for standard track work, insulated joints, step joints, and electric bonding joints for the reason that experience has proven it to be the best appliance of its kind ever put upon the market, as evidenced by the fact that it is used in all parts of the world on over 20,000 miles of track.

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PROVINCIAL GOVERNMENT LANDS can still be purchased at from \$3 to \$6 per acre.

IMPROVED FARMS in all districts of the province can be purchased at from \$10 to \$40 per acre. These prices are advancing every year.

#### A FEW POINTERS

On arrival at Winnipeg the wisest policy for any new settler to adopt is to remain in Winnipeg for a few days and learn for himself all about the lands offered for sale and to homestead.

There are districts that have been settled for many years in which land can be purchased. Some of this may be unbroken prairie which still possesses all the richness and productive powers of our virgin prairies. Other lands, cultivated and having comfortable farm buildings, are ready for immediate possession.

There are Provincial Government lands, Dominion Government homesteads, and railway lands to be secured.

The price of land varies from \$3 to \$40 per acre. Location with respect to railways, towns, timber and water determines the price of land.

For information regarding homesteads, apply at the Dominion Land Office.

For purchase of Provincial lands apply at the Provincial Land Office in the Parliament Buildings.

For C.P.R. or C.N.R. lands apply at the land offices of said railway companies.

For lands owned by private individuals apply to the various real estate agents in the city.

For situations as farm laborers apply to :

J. J. GOLDEN,

PROVINCIAL INFORMATION BUREAU

617 MAIN ST., WINNIPEG

Portland citizens. The rest of the party and guests were seated at small tables throughout the room. The health of the President of the U.S., proposed by Mr. Mackay, was responded to by Col. W. M. Black, of the U.S. engineer corps. British Vice-Consul Keating responded to the toast of the King, both speeches being eloquent efforts. The city of Portland was responded to by Alderman Carr. C. W. T. Goding, G. M. Casco Bay Steamboat Co., M. H. Bohreer, D.P.A. Mobile and Ohio Rd., and A. Lalonde, C.P. and F.A. Boston and Maine Rd., spoke on behalf of the transportation interests. Mr. Bohreer extended an invitation to the Association to go over the Mobile and Ohio Rd. next year from St. Louis to Mobile, 646 miles and thence by the Munson Steamship Line to Havana, Cuba. Mr. Lalonde spoke first in French to the amusement of his hearers. "The Travelling Passenger Agents" was responded to by A. C. Turpin, G.A.C.D., Chicago, Rock Island and Pacific Ry.; J. A. Yorick, C.P. & F.A., Chicago, Burlington and Quincy Ry., and J. A. Goodsell, T.P.A. Union Pacific Rd. In response to the toast of "Our Guests," C. F. Libby made the speech of the evening. He said: "I am glad to participate in this international gathering, and as a citizen of Portland to welcome you to the natural seaport of Canada. We cannot change geography, although we may erect artificial barriers to trade and commerce. Portland must remain what nature intended her to be—the best harbor on the Atlantic coast and the best winter port of Canada."

After referring to the common interests of Canada and the U.S., and to the glorious history of English-speaking peoples, he said: "We need your raw material and you need our manufactured products. If the course of trade were allowed to follow natural conditions each would furnish the other its best market. For one, I hope to live to see the time when the artificial obstructions to commerce between the two countries shall be thrown down and the freedom of trade which existed under the reciprocity treaty of half a century ago shall be ushered in. This must be the wish of every one of our citizens who has at heart the growth and prosperity of Portland. For it should not be forgotten that the growth and importance of Portland is due more to its international trade and its international connections than to any other cause. And in this connection the part that Portland and its citizens have played in the inception of your great Grand Trunk Ry. system should not be ignored. To their enterprise and courage is due the first international railway on this continent, which connects the cities of Portland and Montreal, and which as soon as built became an important part of the G.T.R. system, and I am reminded how fleeting and evanescent is human fame, when I reflect that the name of the one man, to whose foresight, enthusiasm and indomitable energy the construction of the Atlantic and St. Lawrence Rd. was due in a larger measure than to any other of our citizens, is hardly known to this generation. In fact I doubt if there are a dozen men in this audience to whom the name of John A. Poor is familiar, yet on such an occasion as this we may well honor his memory, for he devoted the energies of his resourceful life to promoting closer commercial relations between Maine and Canada, with a breadth of purpose and clearness of vision which we of this generation will do well to imitate. Before he died in 1871 he had seen two of his projects realized—the completion of the Atlantic and St. Lawrence Rd., by which Portland became the Atlantic terminus of the G.T.R. system, and the practical completion of the European and North American Rd., which connected Maine with the Maritime Provinces of Canada. What the G.T.R.

has done for Canada I need not rehearse—you all know it—but what it has done for Portland, we, who live here, know and appreciate, and I feel I am not using the language of exaggeration when I say that the G.T.R. has done more to promote the commercial importance of Portland than all other railroads combined. Without it we should be a side station of the Boston and Maine system—without it we should have no transatlantic steamships plying between this port and Europe throughout the year, and instead of being the terminus of an important international railroad system, we would have lapsed into a port of minor importance."

Other toasts were the Press, responded to by Mr. Littlefield, and the Ladies, responded to by W. Jackson. W. McLroy, of Peterboro', sang some excellent songs. The dinner was well served and passed off very successfully. The toasts were, of course, drunk in cold water, in deference to the Maine prohibitory law. The evening closed with the singing of Auld Lang Syne.

During the dinner the ladies of the party were entertained in the hotel drawing-rooms by a committee of Portland ladies.

On Tuesday, Oct. 17, the party left the hotel at 9.30 a.m. by special electric cars for the Casco Bay Steamboat Co.'s wharf, accompanied by a band. They boarded the steamer Merryconeag, which was specially reserved for them, and on which they sailed till a little after noon among the islands of Casco Bay. Shortly before one o'clock they went ashore at Ponce's Landing, Long Island, and proceeded to Cushing's, where a monster shore dinner and clam bake had been provided for them. The New Falmonth was reached again at about 4 p.m. after a most delightful outing. Undoubtedly the Casco Bay sail and the clam bake were the star features of the whole trip. C. W. T. Goding, General Manager of the Casco Bay Steamboat Co., who extended the invitation, was unremitting in his attentions, and was assisted by the Portland local committee. A number of other Portland people, including several ladies, also took part in the trip.

In the evening an informal social and musical was held at the Falmouth Hotel, the principal feature being several vaudeville acts from the Portland theatre. Buffet refreshments were served with the compliments of the hotel proprietor, F. H. Nunn.

On Wednesday, Oct. 18, the Portland Rd. Co. took the party in the morning by special electric cars around the city to Fort Allen, Underwood, Cape Cottage and Riverton parks, and in the afternoon through the country to Biddeford, and thence to Old Orchard Beach.

Portland was left on Thursday, Oct. 19, at 8 a.m., by special train over the Maine Central, Boston and Maine for Montreal, which was reached at 5.15 p.m., where the party disbanded. The scenery en route, especially through the White Mountains, was enthusiastically admired. Stops were made at Crawford's for a view of the Crawford Notch, and at Bretton Woods for the Presidential Range. A number of the Portland committee accompanied the party during the morning. Luncheon was taken on the train. A. E. Lalonde, C.P. & F.A., Boston & Maine Rd., took charge of the party during that portion of the trip.

The reception and entertainment committee of Portland citizens was composed as follows: Chairman, R. W. Scott, Agent, Grand Trunk Railway; Secretary, J. R. Bowles, Grand Trunk Railway; F. E. Boothby, G.P. & T.A., Maine Central Rd.; R. C. Bradford, T.M., Portland and Rumford Falls Ry.; H. A. Clay, Agent, Maine Steamship Co.; Harrie B. Coe, C.C., Maine Central Rd.; C. W. T. Goding, G.M., Casco Bay Steam-

boat Co.; W. E. Holden, Agent, Eastern Steamship Co.; E. L. Jordan, Mangr., Harpswell Steamboat Co.; J. W. Kilborn, T.P.A., Maine Central Rd.; John Lawlor, T.A., Grand Trunk Railway; J. F. Liscomb, Agent, Eastern Steamship Co.; Chas. R. Lewis, Agent, Eastern Steamboat Co.; A. P. Massey, T.P.A., Boston and Maine Rd.; C. F. Porter, U.S. Marine Engineers; H. A. Snow, T.A., Union Station; H. D. Waldron, A.P.A., Maine Central Rd.; Geo. F. West, President, Harpswell Steamboat Co.; Dr. W. A. Wheeler, Director, Portland Railroad Co. The chairman, R. W. Scott, a Canadian, and formerly in the G.T.R. service at London and Suspension Bridge, Ont., worked very hard, and those who took part in the trip will long remember his very successful efforts, which were well seconded by other members of the committee.

As usual, Secretary de la Hooke had made most complete arrangements for the outing, everything having been most carefully thought out. The amount of detail work involved is hard to realize.

The following presentations were made on behalf of the party during the trip:—H. G. Elliot, A.G.P.A., Grand Trunk Ry., silver-mounted carving set with silver holder; J. Quinlan, D.P.A., Grand Trunk Ry., set of pearl-handled fruit knives; C. B. Foster, D.P.A., Canadian Pacific Ry., gold tie pin; A. Lalonde, C.P. & F.A., Boston and Maine Rd., French travelling clock; R. W. Scott, Agent, G.T.R. Portland, and chairman of the Portland Reception Committee, cut glass vase; C. W. T. Goding, G.M., Casco Bay Steamboat Co., cut glass vase; H. B. Coe, C.C. Passenger Department, Maine Central Rd., case of pipes; H. B. Snow, ticket agent, Union Station, Portland, silk umbrella; J. Lawlor, ticket agent G.T.R., Portland, carving set; J. R. Bowles, G.T.R., Portland, Secretary of the Local Committee, gold tie pin.

Members who shied at the idea of going to Portland missed a great treat. The outing was a thorough success and most enjoyable throughout.

**Freight Rates on Wire Screen Doors.**—The Interstate Commerce Commission has had before it the case of the A. J. Phillips Co., of Fenton, Mich., against the Grand Trunk Western Ry. and others respecting the freight rates on wire screen windows and doors. The complaint alleged that the rates on wire screen doors and windows in carloads from Fenton, Mich., to Philadelphia, New York and Boston, and also to Winooski, Vt., were unreasonable and unjustly higher than the rates on the same traffic from Winooski, Vt., to Detroit, Chicago, Milwaukee and St. Louis. The complainant states, for example, that the rate from Fenton, Mich., to Winooski, Vt., is 36c. per 100 lbs., minimum carload weight 14,000 lbs., while the rate from Winooski to Detroit, about 50 miles from Fenton, is 20c. per 100 lbs., minimum carload weight 18,000 lbs. Complainant states that its competitor at Winooski is under these rates enabled to get into Detroit territory at a rate 16c. per 100 lbs. cheaper than complainant can get into Boston territory, and that such difference amounts to 40c. per dozen on screen doors; and that similar, though less, discrimination exists against complainant on shipments to intermediate destinations.

The American Association of Travelling Passenger Agents met at Portland, Ore., for their 33rd annual convention, Sept. 20, and after transacting their business, travelled to Vancouver by steamer, thence over the C.P.R. to Emerson, Man., and thence over the Minneapolis, St. Paul and Sault Ste. Marie Ry. and the Chicago and Northwestern Rd. to Chicago.

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Steel Rails.

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ALL GOODS GUARANTEED. SAMPLES FURNISHED ON APPLICATION.

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HEAD OFFICE, TORONTO

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**Canadian Northern Ry. Construction.**

Track was expected to be laid to Fort Saskatchewan, Alta., by the end of Oct., and into Edmonton early in Nov. The bridge at Fort Saskatchewan was expected to be ready by the end of Oct., and about a week's work on tracklaying would take the rails into the town. The bridge, however, is only a temporary one, the permanent bridge not being expected to be completed until the spring. It will be a double-decked bridge, the lower deck being used for general traffic and the upper deck for trains. The contractors for the substructure, May, Sharpe & Co., will build three concrete piers each about 60 ft. in height, and two abutments. The steel superstructure will be placed by the company's bridge gang. The work is to be completed in Mar., 1906. Rapid progress has been made on the roundhouse and station at Edmonton, and it is expected to have them completed by the end of the year.

A branch is under construction to Morinville, Alta., and it is expected to get 25 miles of grading westerly through Stony Plains done this season.

At a point about six miles of Battleford, on the line to Edmonton, the company is constructing a large bridge to replace the temporary structure now used. It is expected that the bridge will be completed by Jan. 1, 1906.

W. Mackenzie, President, has completed a trip of inspection over the line, driving into Edmonton, Oct. 6, over the 60 miles of grade then practically ready for the rails.

**National Transcontinental Railway.**

The Transcontinental Railway Commissioners left Ottawa, Sept. 29, on a trip to the Maritime Provinces. From Quebec they travelled to Riviere du Loup, thence via the Temiscouata Ry. to Edmundston, N.B., and on by the C.P.R. to Grand Falls. From this point they went to Plaster Rock, via the Tobique Valley Ry., and then along a portion of the projected route of the Eastern Division to Fredericton. St. John was the next point visited. Messrs. Young and Reid went to Chipman, where the Central and the St. John Valley routes meet, and Messrs. Parent and McIsaac joined them later on. A visit was also paid to Halifax and Sydney, and later on a trip was made to Prince Edward Island, where they went over the railway, leaving Charlottetown for Ottawa, Oct. 9.

The offices of G. C. Dunn, Division Engineer, will be moved Nov. 1, from Fredericton to St. John, N.B.

Work has been commenced on an extension of the Niagara, St. Catharines and Toronto Ry. from Falls View to Montrose, Ont. It is stated that this extension will be the connecting link between the N., St. C. and T. Ry., and the projected Toronto and Hamilton Ry. The company has also started work upon the improvement of the line in the vicinity of Merritton. Several of the trestles there will be filled, and others are to be replaced by steel bridges. (Sept. pg. 427.)

The sittings of the Board of Railway Commissioners in the West have been concluded, and A. C. Killam, K.C., Chairman, and Jas. Mills, Commissioner, have returned to Ottawa. The orders of the Commissioners upon the matters brought before them will be decided upon and issued in due course. On arriving at the Pacific coast the Commissioners held sittings at New Westminster and Vancouver, and returned east via the Crow's Nest Pass line, holding a session at Nelson, B.C., Sept. 27; and another at Regina, Oct. 5. The sittings at Winnipeg were resumed Oct. 10, and occupied some time.

**MAINLY ABOUT PEOPLE.**

C. M. Gartshore, third son of J. J. Gartshore, died at Eglinton, Toronto, Oct. 3.

D. McNicoll, Vice-President C.P.R., is building a large residence in Westmount, Montreal.

D. D. Mann is preparing to erect a residence at Scarboro Heights, Toronto, to cost about \$150,000.

S. G. Sheppard, for many years a director of the Quebec Central Ry., died in London, Eng., Oct. 9.

F. W. Churchill, C.P.R. ticket agent, Collingwood, Ont., returned from a trip to the Pacific coast, Oct. 3.

R. G. Reid, President Reid-Newfoundland Co., who spent the summer in Europe, has returned to Montreal.

W. V. Morgan, who will be installed Lord Mayor of London, Eng., Nov. 9, is a director of the Hudson's Bay Co.

R. Miller, C.P.R. agent, Windsor St. Station, Montreal, returned to duty Oct. 20, after a holiday in New Brunswick.

E. J. Odium, C.E., for nearly 30 years in charge of the Welland Canal, died at St. Catharines, Ont., Sept. 26, aged 58.

R. Bourne, civil engineer, and at one time Professor of Mathematics at St. John's College, Winnipeg, Man., died there Sept. 26.

P. Sise, son of C. F. Sise, President Bell Telephone Co., was married to Miss P. Porteous, at St. Petronille, Que., Sept. 27.

H. K. Wicksteed, consulting engineer to Mackenzie, Mann & Co., has removed his offices from Parry Sound, Ont., to Toronto.

L. C. Charlesworth, formerly with the Ontario Bureau of Mines, has been appointed Director of Surveys for the new Province of Alberta.

A. Piers, Manager C.P.R. Steamship lines, Montreal, sailed for England on the Lake Manitoba, Oct. 19, and expects to return about Dec. 3.

Angus Sinclair, contractor James Bay Ry. construction, has rented Mr. Justice MacMahon's house, 185 Beverley St., Toronto, for the winter.

W. A. Gourlay, engineer in charge of location, Ingersoll-Stratford branch C.P.R., was married at Lindsay, Ont., Oct. 18, to Miss T. E. Macdonald.

The Marchioness of Donegal arrived in Montreal Oct. 8, and paid a visit to A. R. Creelman, K.C., chief solicitor to the C.P.R., before going west.

Sir Wm. C. Van Horne, Chairman of the Board, C.P.R., has been elected a member of the re-organized board of the Equitable Life Assurance Society, New York.

Barlow Cumberland, Port Hope, Ont., Vice-President Niagara Navigation Co., has been elected a director of the London and Canadian Loan and Agency Co.

A. H. Wittmaak, C.P.R. Ticket Agent, Hespeler, Ont., has returned home after having been operated upon for appendicitis at St. Joseph's Hospital, Guelph.

A. T. Tomlinson, member American Society of Civil Engineers, has been transferred from J. G. White & Co.'s New York office to the Canadian White Co.'s office in Montreal.

Jas. Sclater, for several years C.P.R. ticket agent at Vancouver, B.C., and latterly in the Assistant General Passenger Agent's office, there, has retired from the company's service.

A. Elliott, formerly connected with the Harris Car Works, St. John, N.B., and latterly foreman of the erecting shops at Amherst, N.S., for Rhodes, Curry & Co., died there Oct. 6, aged 70.

The engagement is announced of E. F. Fauquier, railway contractor, Ottawa, to Miss Ethel White, eldest daughter of Col. F. White, C.M.G., Comptroller Northwest Mounted Police.

The marriage of Miss M. Cumberland, daughter of Barlow Cumberland, Vice-President Niagara Navigation Co., to H. Wether- spoon, of Montreal, is fixed to take place at Port Hope, Ont., Nov. 1.

H. D. Lumsden, Chief Engineer, Transcontinental Ry. Commission, has bought a house in Ottawa. Mrs. Lumsden, who spent the summer at their house at Orillia, Ont., with her family, has returned to Ottawa.

W. E. Boyd, who died at Montreal, Oct. 9, aged 71, was the last Canadian member of the Average Adjusters' Association of Great Britain. He was connected with shipping interests in Montreal for about 50 years.

Hugh Calderwood, ex-Manager of the Collingwood Shipbuilding Co., and Mrs. Calderwood, have removed from Collingwood to Toronto, and taken up their residence in Mrs. Calderwood's former home, 18 Madison Ave.

S. N. Parent, Chairman National Transcontinental Railway Commission, was given a public dinner Oct. 19, by the citizens of Quebec, on retiring from municipal life in Quebec city, and political life in the Province.

G. H. Ham, of the C.P.R. head office staff, sailed from Montreal on the Lake Champlain, Sept. 28, for a trip to England and is expected to return to Montreal early in Nov. He is reported to have greatly benefitted by his trip.

J. Currie, formerly in charge of the Canada Atlantic Ry. blacksmith shop, Ottawa, was presented with an address and a watch, by the employes, and an ivory rule by the heads of other departments, on his leaving the service, Oct. 1.

W. W. Price, for 45 years station master on the I.C.R. at Petitcodiac, N.B., died there Oct. 10, aged 77. He was father of the late J. E. Price, General Superintendent I.C.R., and of C. W. Price, Train Dispatcher, I.C.R., at Moncton, N.B.

J. W. Smith, formerly General Assistant and Purchasing Agent Canada Atlantic Ry., has been appointed Manager of the Colonial Lumber Co., Ottawa, of which E. J. Chamberlin, formerly General Manager Canada Atlantic Ry., is President.

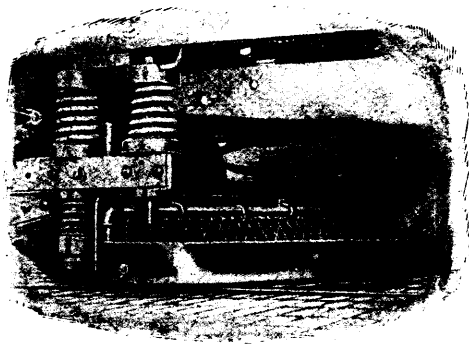
D. Steele, Roadmaster, Reid-Newfoundland Co.'s railway, was recently making an inspection trip on a motor car, when he collided with a section hand-car, and received serious injuries. The section men were able to jump clear of their car before the collision.

The engagement is announced of H. Carre, C.E., late of the C.P.R. field engineering staff, to Mrs. Jas. Reid, of Vancouver, B.C., widow of the late Senator Reid, of Quesnelle, B.C. The marriage will take place in Nov., at Vancouver, where Mr. Carre will reside in future.

E. H. McHenry, formerly Chief Engineer C.P.R., and now Fourth Vice-President New York, New Haven and Hartford Rd., has been given charge of the construction and maintenance of way departments, in addition to his former duties in connection with the electrification of the line.

A committee representing the Summer Resort Keepers' Association, has been formed to arrange for a memorial to the late A. P. Cockburn, Manager of the Muskoka Lakes Navigation and Hotel Co., who was largely instrumental in opening up the Muskoka country to tourist travel.

W. F. Taylor, who has been appointed General Storekeeper I.C.R., was born at Hillsboro, N.B., Aug. 20, 1856, and had been in the employ of a local manufactory from Aug., 1877, to Mar., 1904. He was appointed



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to his present position Sept. 26, having been eighteen months out of business.

Stanton A. Baker, Canadian Freight and Passenger Agent, Chicago Great Western Ry., Toronto, was married Oct. 17, to Miss F. E. Montgomery, of Morrisburg, Ont. They are now on a trip through the Maritime Provinces, and will take up their residence at 77 Carlton St., Toronto, about the end of Nov.

H. B. Mussen, for the past ten years with the Canada Atlantic Ry., has resigned his position as city agent at Montreal, owing to the transfer of the line to the G.T.R., and has gone into partnership with W. T. Stewart, insurance broker, 171 St. James St., Montreal, under the firm name of Stewart & Mussen.

W. J. Crossen, General Manager Crossen Car Manufacturing Co., Cobourg, Ont., was sufficiently recovered from the effects of his recent operation for appendicitis to allow of his going to Atlantic City, N.J., in the middle of Oct., where he will remain under the care of his physician, Dr. Douglas, until fully recovered.

J. T. Meany, agent at Sydney, N.S., for the Reid-Newfoundland Co., was arrested some time ago, charged with being short in his accounts, but was acquitted. A jury has now awarded him \$1,200 damages for alleged wrongful and illegal dismissal. The Reid-Newfoundland Co. will, it is understood, appeal against this decision.

A. J. Gorrie, General Superintendent Great Northern Ry. of Canada, was presented with a cabinet of cutlery by the officials and staff on the occasion of his marriage to Miss A. Yates, of Kingston, Ont., at Quebec, Oct. 7. The bride was given away by her cousin, A. G. Yates, President of the Buffalo, Rochester and Pittsburg Rd., Rochester, N.Y.

A conservatory attachment for \$25,000 has been issued on behalf of A. R. Macdonell, contractor for the Temiskaming and Northern Ontario Ry. against D. Russell, Montreal, and the Caledonia Springs Co. (Ltd.), to seize \$100,000 now in the hands of the C.P.R., and to hold it until Mr. Macdonell's suit against Mr. Russell is decided in the Superior Court.

G. L. Nelson, who has been appointed Division Freight Agent G.T.R. at Portland, Me., was born at Cape Elizabeth, Me., June 28, 1862, and entered railway service Nov., 1879, since which his record has been: Nov., 1879, to Aug., 1890, G.T.R. at Portland, Me.; Aug., 1890, to Mar., 1893, in General Freight Agent's office Maine Central Rd., Portland, Me.; Mar., 1893, to April, 1902, Agent Great Eastern Line, Portland, Me.; April, 1902, to Oct. 1, 1905, agent of the consolidated National Despatch and Great Eastern Lines, Portland, Me.

Jas. Wilson, Claims Agent, Ontario Division C.P.R., died suddenly in his office at the Union Station, Toronto, Oct. 2, aged 72. Born in Edinburgh in 1833, he came to Canada as a youth, and entered railway service about 1850, on the old Welland Ry., on which he was for a time Superintendent of Telegraphs. After some time with the G.T.R. he became Superintendent of the old Toronto, Grey and Bruce Ry., remaining with the C.P.R. when it absorbed the T., G. and B. He was Superintendent of the C.P.R. Ontario and Quebec Division for some time, and afterwards Claims Agent.

W. F. Wagner, General Manager of Wm. Jessop & Sons, Ltd., in the United States, together with E. L. Hand, who represents them in Philadelphia; E. W. Salisbury, of Warren, Salisbury & Nightingale, their agents in Providence; E. B. Ridgley, their representative in Detroit, together with F. W. Babcock, of the Standard Oil Co., a resident of Providence, sailed on the Cunard steamer Caronia, Oct. 3, to attend the 282nd annual gathering of the Cutlers Co. at their

banquet in Sheffield, on Oct. 12, when S. Jessop Robinson, Managing Director of Wm. Jessop & Sons, Ltd., was installed as Master Cutler.

W. Wood, who has been appointed C.P.R. locomotive foreman at Megantic, Que., was born in Montreal, Dec. 6, 1863, and entered railway service 1881, since which his record has been: 1881 to Dec., 1884, apprentice to C.P.R. Delorimier Ave. shops; Jan., 1885, to Oct., 1890, fitter Louisville and Nashville Rd., Mobile, Ala.; Oct., 1890, to 1893, fitter, Peoria, Decatur and Evansville Rd., Mattoon, Ill.; 1893 to 1895, fitter Canada Switch Works, Montreal; 1895 to 1900, with the Canada Ry. Accident Insurance Co., for railway work; Feb., 1900, to Sept. 30, 1905, leading hand C.P.R. shops, Outremont, Que.

F. Ronaldson, who has been appointed acting locomotive foreman C.P.R. at Brownville Jct., Me., was born at Prescott, Ont., June 4, 1869. He served his apprenticeship in the G.T.R. shops at Point St. Charles, Montreal, and entered the service of the C.P.R. April 14, 1890, since which his record has been: 1890 to 1896, machinist, C.P.R. North Bay, Ont.; 1896 to 1902, leading hand C.P.R. North Bay; 1902 to 1903, locomotive foreman C.P.R., Schieber, Ont.; Feb., 1903, to Sept., 1904, general locomotive foreman C.P.R., North Bay; Sept., 1904, to Sept., 1905, locomotive foreman C.P.R., Megantic, Que.

E. R. McNeill, Division Engineer G.T. Pacific Ry., who died of typhoid fever at Winnipeg, Man., Oct. 7, was born near Garden Grove, Ia., July 25, 1866, and entered railway service June, 1887. After having some service with the Rock Island Rd., and the Missouri River Commission, he entered the service of the Northern Pacific Rd., and was in charge of the masonry lining of the Wicks tunnel until 1894. Until 1899 he engaged in private practice, and was in charge of construction on the Montana Central Ry. from 1899 to 1901; going to the Great Northern Ry. as Resident Engineer in charge of maintenance and construction Middle Division, remaining there until he joined the G.T. Pacific Ry. staff in Sept., 1903, as District Engineer at Edmonton, Alta. A temporary cessation of the work in Aug., 1904, caused him to move to Vancouver, B.C., as Chief Engineer of the Vancouver, Westminster and Yukon Ry., but he returned to Edmonton in April, 1905, and was moved to Winnipeg as Division Engineer July 1.

E. R. Bremner, who has been appointed Division Freight Agent, G.T.R., Ottawa, was born in Toronto, Sept. 29, 1875. He entered the G.T.R. service at Toronto, Oct. 10, 1890, in the office of A. White, District Freight Agent, as junior, and was connected with that Co. until Nov. 1, 1893, when he entered the Ontario agency of the Canada Atlantic and National Despatch fast freight lines, being connected with these lines until May, 1895, when the agency was abolished. He re-entered the service of the G.T.R. as clerk in the Division Freight Agent's office at Toronto, and was Assistant City Freight Agent, until Aug., 1895, when he entered the service of the Canada Atlantic Ry. at Ottawa, as secretary to C. J. Smith, General Traffic Manager, holding the position of secretary and rate clerk until the re-organization of the C.A.R. in May, 1898, and the opening of the Canada Atlantic Transit Co., when he was appointed chief clerk of the Traffic Department, which position he held until July 1, 1901, when appointed Assistant General Freight Agent, remaining in that office until the C.A. Ry. was taken over by the G.T.R., Oct. 1.

F. H. Alfred, who has been appointed General Manager of the Canadian White Co., at

Montreal, was born Dec. 24, 1866, and received his education at the University of Michigan and the Ohio State University. From 1887 to 1890 he was engaged on railway construction as rodman, transitman and resident engineer, and from the latter date to 1894 was with the Norfolk & Western Rd., during which time he had charge of the field work on the construction of the terminals at Columbus, O. In 1894 he entered the service of the Hocking Valley Rd. and was connected with its engineering department for two years. From 1896 to 1899 he was engineer maintenance of way of the Cleveland, Akron & Columbus Rd., and was then for one year engineer maintenance of way of the Wheeling & Lake Erie Rd. He became connected with the Pere Marquette Rd. in 1900 as division engineer and has been Chief Engineer since 1902. During this time the railway was re-organized and extended into Chicago and Buffalo, new yards and shops were built at Grand Rapids, Mich., and the new shops at St. Thomas, Ont., have recently been completed under Mr. Alfred's supervision.

Jas. W. Leonard, who has been appointed Assistant General Manager, C.P.R. Eastern Lines, Montreal, was born at Epsom, Ont., 1858. He entered railway service, 1872, since which his record has been:—1872 to Aug., 1877, telegraph operator and agent, Midland Ry. of Canada; Aug., 1877, to Dec., 1878, agent Victoria Ry.; Dec., 1878, to Mar., 1880, assistant manager same road; Mar. to June, 1880, assistant to General Superintendent Credit Valley Ry.; June, 1880, to Nov., 1883, General Passenger Agent, same road; Nov., 1883, to May, 1884, Master of Transportation Ontario and Quebec Ry.; May, 1884, to Mar., 1887, Superintendent C.P.R. at Toronto; Mar., 1887, to Mar., 1890, Superintendent at Kamloops; Mar., 1890, to Mar., 1893, Superintendent lines east of Montreal, same road; Mar., 1893, to April, 1901, General Superintendent Ontario and Quebec division, same road, Toronto; April, 1901, to Mar., 1903, General Superintendent, Western Division, same road, Winnipeg; Mar., to April, 1903, General Superintendent, Central Division, same road, Winnipeg; April, 1903, to Jan., 1904, Assistant Manager, C.P.R. lines west of Lake Superior, Winnipeg. After some months spent in travelling, Mr. Leonard was elected President Guelph and Goderich Ry., and subsequently Manager of Construction, C.P.R. lines in Ontario, which position he retains in connection with his present appointment.

The Canadian Fairbanks Co. advises that it is now at work on the first section of its new general supply catalogue, which will be devoted to pipe and steam fitters' tools, and will be ready in Dec.

The officials of the traffic departments of the C.P.R., the G.T.R., the I.C.R., and the Rutland Rd., at Montreal, were invited to spend a day at Abenakis, Que., by the Quebec Southern Ry., Oct. 3.

W. P. Hinton, General Agent Passenger Department G.T.R., and E. R. Bremner, Division Freight Agent, formerly of the Canada Atlantic services, are continuing to occupy offices in the Central Chambers, Ottawa, as heretofore.

At the annual meeting of the American Locomotive Co., in New York, Oct. 17, Dr. W. Seward Webb and G. Hoadley retired from the Board, and C. A. Coffin, President of the General Electric Co., and E. C. Converse, a director of the United States Steel Corporation, were elected directors in their stead. The other directors were re-elected, the full Board being as follows:—W. M. Barnum, J. Bryan, C. A. Coffin, E. C. Converse, P. Fisk, J. E. French, C. Miller, A. J. Pitkin, S. L. Schoonmaker, G. R. Sheldon F. H. Stevens.



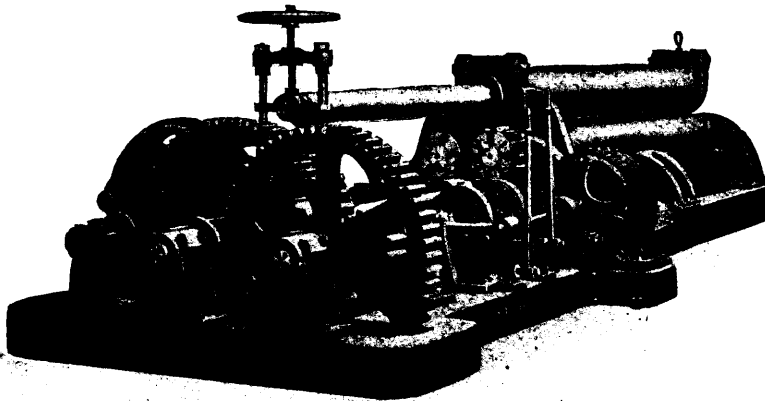
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**MONTREAL, CANADA**

## TRANSPORTATION APPOINTMENTS.

**Algoma Central and Hudson Bay Ry.**—R. W. Seelye has been appointed Superintendent of the Michipicoten branch, vice C. Shields, resigned.

**Canadian Pacific Ry.**—J. W. Leonard, heretofore Manager of Construction new lines in Ontario, has been appointed Assistant General Manager of Eastern Lines. Office at Montreal. He will have charge of operation and maintenance of all the company's eastern lines, and of the construction of new lines in Ontario.

F. Ronaldson, heretofore locomotive foreman at Megantic, Que., has been appointed acting locomotive foreman at Brownville Jct., Me.

W. Woods, heretofore leading hand at Outremont, Que., has been appointed locomotive foreman at Megantic, Que., succeeding F. Ronaldson, transferred.

D. J. MacDonnell, heretofore Asst. Roadmaster at Peterboro', Ont., has been appointed Roadmaster from Leaside Jct. to Havelock, Ont., and the Lindsay branch, vice A. McAuley, transferred. The position of Assistant Roadmaster has been abolished.

A. McAuley, heretofore Roadmaster Toronto section, has been appointed Roadmaster Windsor section, and part of the London section to Woodstock in place of E. Murphy, retired. Office, London, Ont. J. E. Steele, who was acting Roadmaster until a permanent appointment was made, has returned to his position as Assistant Roadmaster, London section, at Woodstock, Ont.

H. J. Hunt has been appointed General Yardmaster, Winnipeg Terminals, succeeding D. G. McKay, resigned.

H. G. Buchanan, heretofore chief clerk in the Assistant General Freight Agent's office at Calgary, Alta., has been appointed agent at Edmonton, Alta.

Allan Cameron has been appointed General Traffic Agent (Great Britain and Europe). Office, 62 to 65 Charing Cross, London, S.W., Eng. The circular announcing the appointment is signed by Archer Baker, European Manager.

**Dominion Atlantic Ry.**—The jurisdiction of the various officers of the D.A. Ry. has been extended over the line of the Midland Ry. of Nova Scotia. The officials are: General Manager, P. Gifkins; Traffic Superintendent, W. Fraser; Auditor, G. A. Parker; General Freight Agent, F. G. J. Comeau, Halifax; General Passenger Agent, F. H. Armstrong; Engineer and Mechanical Superintendent, W. Yould; Roadmaster, D. J. Murphy. With the exception above noted, all the officers are located at Kentville, N.S. H. V. Harris, General Manager, Midland Ry., will remain at Truro until all unsettled matters between the two companies are finally disposed of.

**Duluth, South Shore and Atlantic Ry. and Mineral Range Rd.**—Jas. Robertson, heretofore Division Freight Agent, Duluth, Minn., has been appointed Assistant General Freight Agent. Office, Hancock, Mich.

Chas. Schaffer has been appointed Traveling Passenger Agent, succeeding E. J. McMartin, assigned to other duties. Headquarters, Duluth, Minn.

**Grand Trunk Pacific Ry.**—A. B. Smith, heretofore Manager of Construction and Maintenance G.N.W. Telegraph Co., has been appointed Manager Telegraph Department of G.T.P. Ry. Headquarters, Montreal.

A. C. Dennis has been appointed Division Engineer, Prairie Division East, at Winnipeg, succeeding E. R. McNeill, deceased.

**Grand Trunk Ry.**—Dr. B. P. Brodie, District Surgeon, Detroit, has been appointed Division Surgeon of the Western Division.

Dr. B. L. Riordan, District Medical Officer, Toronto, has been appointed Division

Surgeon of the Northern, Middle and Southern Divisions.

Dr. H. B. Carmichael, District Medical Officer, Montreal, has been appointed Division Surgeon of the Eastern Division.

These officers will perform duties to be assigned them by the Chief Medical Officer, in their respective districts, relieving and permitting him to give attention to an enlarged field of service.

The territory assigned to F. J. Watson, Division Freight Agent, Montreal, has been changed as follows: Stations on main line east of Belleville, Ont., and all lines south of Coteau Junction and south of the St. Lawrence River, east to and including Dixville, Que.

G. L. Nelson, General Eastern Agent National Despatch Great Eastern Line at Portland, Me., has also been appointed Division Freight Agent G.T.R. in charge of the line east of Norton Mills to Portland, inclusive. Office, Portland, Me.

F. A. Nott, heretofore chief clerk Division Freight Agent's office, Stratford, Ont., has been appointed chief clerk Division Freight Agent's office, Portland, Me.

J. J. Connolly has been appointed Trainmaster, 1st and 2nd Districts, vice W. Holmes, resigned. He will report to and receive instructions from the Assistant Superintendent. Office, Island Pond, Vt.

J. J. Connolly having been transferred, G. M. Stone has been appointed acting Chief Train Despatcher, 2nd District, west of Richmond, and 4th and 5th Districts. Office, Bonaventure Station, Montreal.

E. R. Bremner, heretofore Assistant General Freight Agent, Canada Atlantic Ry., has been appointed Division Freight Agent in charge of the G.T.R. line from St. Polycarpe, Que., to Depot Harbor, Ont., inclusive, also Hawkesbury, Rockland and Pembroke branches. Office, Ottawa, Ont.

The jurisdiction of the following officers has been extended over the Ottawa Division (formerly Canada Atlantic Ry.); W. Cuthbert, Fuel and Tie Agent; S. Wells, Claims Agent.

In addition to the appointments mentioned in our Oct. issue the following Canada Atlantic Ry. officials have been retained in the G.T.R. service on the Ottawa division. W. C. C. Mehan, Train Master; F. L. Lamplough, Chief Train Dispatcher; E. J. McVeigh, Division Storekeeper; W. S. Blyth, Travelling Engineer; J. Leslie, Roadmaster District 31; J. Graham, Roadmaster District 30; T. Graham, Roadmaster District 32. They are all located at Ottawa, except T. Graham, who is at Depot Harbor, Ont.

The car service department of the Canada Atlantic Ry. (now Ottawa Division G.T.R.) has been abolished, and a number of the staff have been removed to Montreal.

W. H. Smith, heretofore General Auditor Canada Atlantic Ry., has been appointed Manager of the Canada Atlantic Transit Co. and Canada Atlantic Ry. barge line, in charge of the operation, maintenance and accounts pertaining to the steamers and barges in the service of the companies named, other than questions involving solicitation of traffic and the rates thereon. Officers and employees of the boats will receive their instructions, in connection with their duties, from Mr. Smith, and will be governed accordingly. Office, Ottawa.

We are advised that there has been no change in the location or employment of the following officers of the Canada Atlantic Ry. since it has been taken over by the G.T.R.:—R. K. Claire, General Agent, Ottawa; S. Ebbs, City Ticket Agent, Ottawa; A. W. Eccleston, Southern Passenger Agent, New York.

J. H. Dull, Trainmaster at Stratford, Ont., has resigned.

T. K. Bremner, formerly secretary to the Division Freight Agent at Hamilton, and

recently in the Division Freight Agent's office at Stratford, has been appointed chief clerk there, succeeding F. A. Nott, transferred to Portland, Me.

The following agents have been appointed: Laprairie, Que., J. Laplante; Sherrington, Que., B. Vautrin; Oakville, Ont., H. D. Galbraith; Aylmer, Ont., S. F. Ball (Rlg); Dunnville, Ont., J. W. Gray; Drayton, Ont., J. Robertson; Attwood, Ont., W. G. McCulla; Belgrave, Ont., Wm. Graham.

**Great Northern Rd. (U.S.)**—W. F. Hetherington, heretofore assistant in the Montreal office, has been appointed District Freight and Passenger Agent, there, vice C. W. Graves, resigned.

W. Dixon, heretofore in the Division Freight Agent's office, G.T.R., Montreal, has been appointed assistant to Mr. Hetherington.

**Intercolonial Ry.**—I. L. Burrill has been appointed Paymaster, succeeding E. T. Trites, deceased.

**Kootenay Ry. and Navigation Co.**—W. R. Allen, of Kaslo, B.C., has been succeeded as Secretary by W. H. Fortier, of Spokane, Wash., who is also secretary of the subsidiary companies, the Kaslo and Slocan and the Bedlington and Nelson Ry.

**Midland Ry. of Nova Scotia.**—See Dominion Atlantic Ry.

**National Despatch—Great Eastern Line.**—G. L. Nelson, who has been appointed Division Freight Agent Grand Trunk Ry., at Portland, Me., will continue to act for the N.D.-G.E. Line, there.

**Reid-Newfoundland Ry.**—W. E. Hamilton has been appointed General Passenger Agent, succeeding H. A. Morine, resigned. Office, St. Johns, Nfld.

**Rutland Rd.**—F. E. Herriman has been appointed Coal Traffic Manager, with jurisdiction over all matters relating to coal and coke traffic.

H. W. Henry has been appointed General Coal Agent.

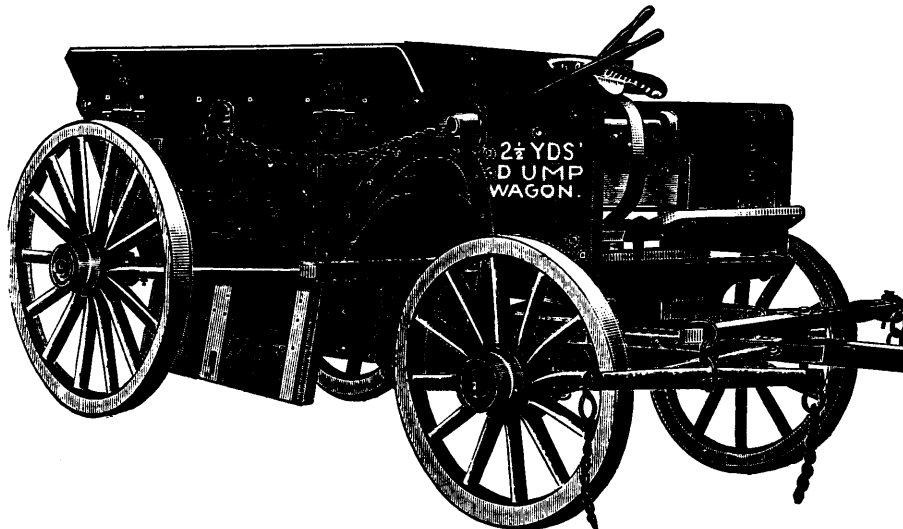
**Spokane Falls and Northern Ry.**—The duties of General Freight and Passenger Agent, heretofore performed by H. A. Jackson, now Assistant General Freight and Passenger Agent, Great Northern Ry. (U.S.), have been transferred to the traffic officers of the Great Northern Ry. The S. F. and N. Ry. operates the Vancouver, Victoria and Eastern Ry., the Nelson and Fort Shepherd Ry., and the Red Mountain Ry., in British Columbia.

**Wabash Rd.**—A. O. Cunningham has been appointed Chief Engineer, succeeding W. S. Newhall, resigned. Office, St. Louis, Mo.

The old St. Louis and Western Divisions have been amalgamated under the name of Moberly Division, and R. Doyle, heretofore at Moberly, has been appointed Superintendent of the new division. Office, Moberly, Mo. J. S. Goodrich, who was Superintendent of the other division operated from Moberly, has resigned.

**Montreal Street Ry.**—The percentage payable to the city on \$2,255,868.75, the company's earnings in the city for the year ended Aug. 30, amounts to \$147,724.10, against \$127,483.29 for the year ended Aug. 31, 1904. The city claims that it is also entitled to a percentage on the company's earnings out of the city, and a case is before the courts to have this point decided. The earnings out of the city for the past financial year amounted to \$271,492.93.

The Sovereign Construction Co. has been incorporated under the Dominion Companies' Act, with a capital of \$1,000,000, to carry on a general contracting business. The provisional directors are:—G. W. Cook, M. O'Meara, Montreal; H. Kennedy, Quebec; E. Dessault, Levis, and a number of United States men and the offices are at Montreal.



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Box of 2 inch timber

Thoroughly bolted and ironed. Wheels turn under. Light draft. Dumps load clear of wheels. Driver does not leave his seat either to dump load or replace bottom.

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Late Supt. Engineer Messrs Elder, Dempster & Co. and Canadian Pacific Railway Co., London

T. O. SINCLAIR, M.I.N.E.

**Grand Trunk Pacific Railway.**

A contract has been let to Foley Bros., Larson & Co., of Winnipeg, Man., and St. Paul, Minn., for the construction of the Lake Superior branch from Fort William to Lake Superior Jct., Ont., about 210 miles, and including a branch into Port Arthur. Lake Superior Junction is the point where a connection will be made with the Eastern Division, which the National Transcontinental Railway Commissioners will construct easterly from Winnipeg. The contract covers the grading, culverts, bridges (except those of steel) and everything ready for the ties and tracklaying. The company will let the contracts for the steel bridges direct, and will do its own tracklaying. The maximum gradient eastbound is 0.4%, and westbound 0.6%, and the maximum curvature is 5° compensated. There is a large amount of rock-work on the contract, in one place there being a cutting of 128,000 cubic yards; while across the height of land there is a good bit of shallow muskeg. There are a few bridges on the route, including four large steel ones. The company will build its own stations and put in a water service. There will be a division point about 100 or 110 miles north of Fort William. The work is to be completed in time to have the line in operation in the fall of 1907. O. W. Swenson, who was recently in charge of construction for the firm on the C.P.R. Toronto-Sudbury line at Wahnapiatae, Ont.; will have charge of construction of the G.T.P. branch, with his headquarters at Fort William.

The construction for the company is under the charge of G. A. Knowlton, Division Engineer at Fort William, Ont. The first section is 100 miles in length, and is sub-divided under the charge of A. G. Allan, as Assistant Engineer, for the first 50 miles, with headquarters at Fort William, and G. Macrone, Assistant Engineer in charge of the second 50 miles, with headquarters at Savanne, Ont. The assistant engineers have a number of resident engineers under them, each of whom has charge of from six to ten miles of construction. On the first 50 miles the resident engineers, with addresses, are:—S. Street, R. A. Frederick, Fort William; A. E. Morris, Kakabeka; H. B. Dibblee, Kaministikwia; S. F. Hazelwood, Finmark; J. M. Fotheringham, Buda; and on the second 50 miles, W. R. Smith, C. D. Fairchild, J. S. Leitch, J. A. Vickery and E. R. Brobeck, their nearest post office being Savanne. This second 50 miles runs through unsurveyed territory and a more exact location of the resident engineers cannot be given. The contractors have been completing their storehouses and other arrangements, but have not yet let any sub-contracts.

The question of the Winnipeg terminals has been under consideration by the National Transcontinental Railway Commissioners, the Canadian Northern Ry. and the G.T. Pacific Ry. interests, and the Winnipeg City Council. The Board of Railway Commissioners has also some matters before it in connection with the closing of certain streets on the lands acquired by the Canadian Northern Ry. for its terminals. The proposition is that there should be a joint terminal for the G.T.P. Ry. and the Canadian Northern Ry. This latter company has secured a large area of land for its terminals, and a good deal of the difficulty in arranging for joint terminals is as to the ownership of the land.

The contractors for the line from Portage la Prairie to Touchwood Hills, Man., 275 miles, McDonald, McMillan Co., have let sub-contracts as follows:—36 miles to G. H. Strevel, Portage la Prairie; 10 miles to N. Keith, Portage la Prairie; two miles to W. McQuat, Wellwood; four miles, Roe Bros., Wellwood; five miles, J. A. Munson, Brookdale; 11 miles, J. A. Tierney, Varcoe; two

miles each to W. Carson, G. S. Poole and H. Olsen, Varcoe; five miles, A. J. Selwood, Miniota; 25 miles to J. Bradley, Miniota; two miles to A. D. McCormick, Miniota; seven miles to H. Guilbault, Miniota. The general contractors have camps at four points covering seven miles of the heavy work on the Sand Hills, and anticipate putting on some more steam shovel outfits during the fall. A sub-contract has been let to the Doukhobors for 17 miles of the heavy work, on which it was expected to put on at once about 150 teams and 1,500 men. These contracts cover about 140 miles of the work, which it is expected to have completed ready for tracklaying early in next season. Contracts for an additional mileage are expected to be let at an early date. C. W. McMillan is Manager of Construction; A. T. Fraser, Chief Engineer; J. McLaren, Assistant Engineer; and W. J. Weller, Bridge Superintendent, for the contractors, and the following represent the railway company:—Section 1, from Portage la Prairie, westerly for 86 miles, Assistant Engineer A. M. Jones, who has under him as resident engineers: B. Ripley, Bagot, Man.; H. L. Johnston, Austin, Man.; M. A. Burbank, Carberry, Man.; J. Durie, Sewell, Man.; C. M. Bull, Forest, Man.; R. F. Hickman, Carnegie, Man. Section 2, H. B. Roe, Assistant Engineer, who has as resident engineers: C. E. McLennan, Oak River, Man.; A. E. Stanton, Miniota, Man.; J. Hislop, Birtle, Man.

The plans for the line from Touchwood Hills, Man., to Edmonton, Alta., have been supplied to the Dominion Government, and C. Schriber, formerly Deputy Minister of Railways, has been commissioned by the Minister of Railways to report upon the location. The company expects to be able to put under contract about 400 or 500 miles of line west of Touchwood Hills, by the end of Nov.

In reference to the terminus of the line on the Pacific coast, reports are current that Vancouver will be chosen instead of Port Simpson or Kaien Island. A press report is also current that a prize of \$250 is to be offered by the company for the best name for the terminus, the competition to be among the school children of the Dominion.

The G.T.R. has placed an order for 150,000 tons of steel rails, the first delivery of 25,000 tons to be made early in 1906.

The Canada Car Co.'s shops at Montreal have a complete fire extinguishing plant. For this 4,400 ft. of hose were purchased from the Canadian Rubber Co. of Montreal.

F. R. Carney, formerly of the W. U. Telegraph Co., Chicago, and latterly local manager of the G.N.W. Telegraph Co.'s Ottawa office, has been appointed manager of the G. N.W.T. office in Montreal, succeeding W. B. Powell.

W. J. Duckworth, heretofore Inspector of offices, Great Northwestern Telegraph Co., has been appointed Superintendent of Construction and Maintenance, to succeed A. B. Smith, appointed Manager Grand Trunk Pacific Ry. Telegraph Department. C. D. Dawsy succeeds Mr. Duckworth as Inspector.

A Winnipeg despatch dated Oct. 26, states that a Union depot for the Canadian Northern Ry., and the G. T. Pacific Ry., has been decided upon, and that it will be built almost in the heart of the city, just north of the present terminals of the C.N.R. The Great Northern Ry. (U.S.) and the Northern Pacific Ry., are also interested in the terminals. The yards and terminals will be entirely re-constructed, and it is considered probable that the C.N.R. and the G.T.P. will have separate freight yards, those of the former being at St. Boniface. The new terminals will, it is stated, cost between \$3,000,000 and \$4,000,000.

**C.P.R. Betterments, Construction, Etc.**

**Chateau Frontenac Extension.**—The C.P.R. has purchased several properties on St. Louis St., Quebec, and is negotiating for some other adjoining properties in connection with the plans for the extension of the Chateau Frontenac.

**Angus Shops Extension.**—Permits have been granted by the Montreal City Council for the erection of five new buildings near the Angus shops. The buildings will include car and paint shops 107 ft. frontage by 321 ft. deep, 30 ft. high, to be constructed of brick with a flat roof; scrap iron shed 303 by 30 ft.; a dry kiln 85 by 44 ft.; a two-story lunch room and dwelling 116 by 70 ft., and a second lunch room to be a single story building 116 by 70 ft.

**Ottawa Terminals.**—Plans have been filed at Ottawa for terminals, freight sheds and stations, on the east side of the canal, south of Laurier Ave., Ottawa. About one-half of the land required is reported to have been purchased, and negotiations are in progress for the remainder. The carrying out of the plans will necessitate the closing of Nicholas St. for some portion of its length. Considerable opposition is being manifested to the plans, and it is expected that the Railway Commissioners will be asked to direct the formation of a terminal company to provide a joint station, etc. for all lines entering Ottawa.

**Victoria Harbor Line.**—The surveys for a line from Victoria Harbor to a point on the main line between Montreal and Toronto, are being pushed, and preliminary reports show that a gradient of 3-10 of 1% may be secured. The point of junction with the main line has not been decided, though Peterboro', Havelock and a point near Sharbot Lake, Ont., are all suggested. J. W. Leonard, Assistant General Manager, Eastern lines, stated in a recent interview, that the line would be an expensive one to construct. A short route with the easiest gradients was what the company aimed at, and the selection of the point of junction would depend wholly upon the suitability of the location as reported upon by the engineers.

**Stratford-Listowel Branch Lines.**—The plans for the construction of a branch from the Guelph and Goderich Ry., at the boundary of Waterloo and Perth counties into Stratford, Ont., and from Linwood on the same line to Listowel, have been approved by the Board of Railway Commissioners. The Stratford branch will connect with an extension of the Tillsonburg, Lake Erie and Pacific Ry., from Ingersoll, via St. Mary's to Stratford.

**Fort William-Winnipeg Second Track.**—The work of constructing the second track between Fort William, Ont., and Winnipeg, Man., is being proceeded with east and west from Kenora, Ont., where the heaviest rock work is encountered. During the current year work will be chiefly done on changes of line necessitated by the grade improvements, but as soon as navigation closes and the shipment of wheat eases off, the work of widening the rock cuts will be commenced. Earth cuttings will be taken out this fall and until the severe weather makes it too expensive to move that material. Masonry for double track bridges will be proceeded with and it is expected to get out stone and to work in the quarries all winter. All the tunnel work will be carried on during the winter, and pushed to completion without interruption. Changes of line occur between Cross Lake and Ingolf, Deception and Busted, east and west of Snell, east of Parry, and one change on the Fort William section east of Dexter. The maximum gradients will be 0.4%, both east and west bound, and the curvature will be practically the same as at present where no line changes occur. Press reports state that sub-contracts have been let by Foley Bros. and Larson as follows:

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AND FREIGHT CAR SERVICE**

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**CANADIAN BRONZE COMPANY**  
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BEARINGS FOR ALL CLASSES  
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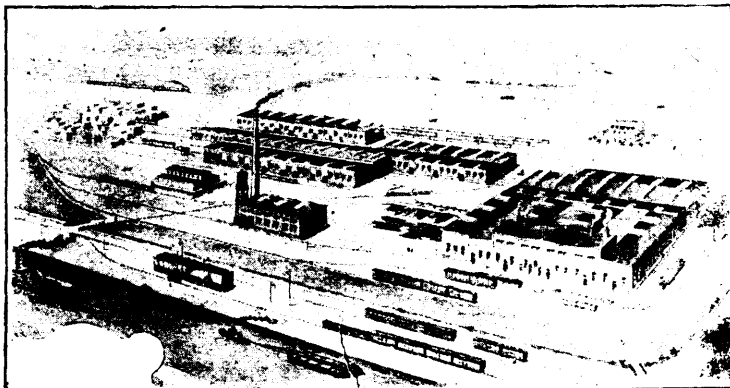
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Railway Freight and Passenger cars, both wood and steel, of all descriptions and styles; street cars, car wheels, castings, forgings, and all equipment necessary for car construction.

Capacity—7500 freight cars, 150 passenger coaches per year.

ORDERS SOLICITED

Two miles at Cross Lake to J. E. Bostrom; two miles at Kilmar, including 400 ft. of tunnel, to Larson Bros.; three miles near Osterlund to F. Peterson & Co.; and two miles at Scovil to J. Moran.

**Poling Yard at Fort William.**—With the increased output of wheat in the Northwest the C.P.R. last year found that its facilities for handling the traffic at Fort William, Ont., would soon become inadequate. During the months of navigation on Lake Superior practically all the freight to and from the west is handled at this point. The C.P.R. has six elevators, coal docks, freight and flour sheds located there, and besides this there are two private elevators, private coal docks, etc. The grain is inspected in Winnipeg and taken to Fort William, where it is re-inspected and cars marked for the different elevators. In the fall rush—from the end of September till the close of navigation—it is very hard to get the grain switched to the elevators as fast as it comes in, and it was therefore decided to handle all the grain in separate yard, and locate the latter at West Fort, about two miles west of Fort William. The new yard is laid out for a no. 7 frog angle; which is the standard frog angle in yards on this road, the yard tracks are all spaced at 13 ft. centres, the poling track at 13 ft. from running track except along the distribution yard lead where the distance is increased to 14 ft. to allow room for switch stands. The yard tracks will be laid with 60 ft. steel leads, poling and running tracks with 72 lb. steel. All switches will be split switches. The main line to the north of the yard rises west at a gradient of 0.2%. The grade for receiving tracks will be kept 0.075%, falling east, and the poling and running tracks raised sufficiently to allow a fall of 0.2% on the west distribution yard lead, and a fall of 0.3% from the lead in the receiving yard for 300 ft. The main lead branches off the main line about 100 ft. east of the diamond crossing with the Canadian Northern Ry. All grain trains will pull into the receiving yard which has a capacity of 410 cars. Each track is sufficiently long to take a train of 40 cars, which is the largest train the C.P.R. can handle from Dexter—50 miles west—into Fort William. The distribution yard contains 12 tracks, and has a capacity of 390 cars. The sorting yard which was estimated to cost \$110,000 was opened for traffic Sept. 29.

**Macleod Deviation.**—It has been arranged to construct a deviation of 3.9 miles so as to give the C.P.R. a line into Macleod, Alta. The deviation will start from mileage 140.8 on the Lethbridge section, and will join the Crow's Nest Pass line at Macleod Jct. The deviation will be constructed at once, and a contract will be let for the work at an early date.

**Columbia and Western Ry.**—A survey is reported to be in progress on this line in the vicinity of Rossland, B.C., by J. McLatchie, of Nelson, B.C.

**A Disastrous Lake Storm.**

A heavy gale swept over the Upper and Lower Lake regions between the night of Oct. 19 and the morning of Oct. 21, during which period 42 vessels were either wrecked or damaged, and 23 lives lost. The largest loss of life was in the sinking of the schooner Minnedosa, owned by the Montreal Transportation Co., Montreal, in Lake Huron, with her entire crew of eight. The Minnedosa was built at Kingston, Ont., 1890, her dimensions being: length, 245 ft.; breadth, 36.3 ft.; depth, 15.1 ft.; registered tonnage, 1,041 tons. She had a cargo of 75,000 bush. of grain, and was, together with the schooner Melrose, in tow of the company's str. Westmount, and was bound to Montreal. It has been alleged that the schooner was overloaded, but this is denied by the company's officers. A statement has been made by an officer of the Department of Marine, that no control can be exercised over vessels loading grain for inland ports, the Department's jurisdiction extending only to vessels taking grain cargoes to ocean ports. A list of the losses on the different lakes shows the following:—

**LAKE ERIE.**—Total losses—Str. Sarah E. Sheldon; schooners Commerce, Tasmania, Yukon. Partial losses—Strs. Siberia, F. H. Prince; tug Walter Metcalfe.

**LAKE HURON.**—Total losses—Str. Joseph H. Fay; schooners Mautenee, Minnedosa. Partial losses—Tug boats Margretta, Signet; despatch boat Whistler; schooners Katadin, Emma Nelson, D. P. Rhodes.

**LAKE MICHIGAN.**—Total losses—Tug Irene; schooners G. Cuyler, J. V. Jones, Kate Lyons, Lydia, Vega.

**LAKE SUPERIOR.**—Total loss—Schooner Alta. Partial losses—Schooners Foster, Galatea, Nirvana, Olga, Oregon; tug Perry.

A number of other vessels were disabled, but not so seriously damaged.

**Orders by the Railway Commissioners.**

Following additional orders to those on pg. 513 have been issued by the Board of Railway Commissioners:—

No. 657. Sept. 14.—Dismissing application of Robert Reid under section 186 of the Railway Act, 1903, to compel the Canada Atlantic Ry. to provide certain highways in Nepean tp., across the company's railway.

No. 662. Sept. 12.—Sanctioning location of the Canadian Northern Ry. through townships 8 to 10, range 26, W.P.M., being mileage 23 to 36.34, reckoned from Hartney, Man.

No. 688. Sept. 28.—Authorizing the Lake Erie and Detroit River Ry. to take part of lots 39, 41, and 42, on the south side of Talbot Road east, in Southwold tp., Elgin Co.

**ELECTRIC RAILWAYS.**

**Quebec Railway, Light and Power Co.**

The directors' report presented at the annual meeting recently gave the result of operations for the year ended June 30, 1905. The net profits were \$58,641.13, which, added to the balance of profit and loss account, increased the amount at the credit of that account to \$211,629.05. The result of the year's business was very satisfactory, the favorable climatic conditions of last winter materially assisting the company in the results obtained. The largely increasing business naturally demands a careful study of its future requirements, the most pressing of which is the necessity of more power. With this object in view, the directors, after a careful study of the situa-

tion, have deemed it advisable to take advantage of the natural facilities offered them to proceed with the construction of a new dam at the foot of the Natural Steps on the Montmorency River. This dam, when completed, will act as a storage reservoir in low water periods and prevent the waste of water so badly needed during these periods, enable the company to operate its present power plant to its full capacity at all times and give an additional 500 h.p. at the new dam. The construction of this work is now proceeding very satisfactorily.

The report of E. A. Evans, General Manager, respecting the operation of the railway portion of the company's undertaking follows:

**CITADEL DIVISION.**—During the year 4,741,708 passengers were carried, an increase of 283,947 over the previous year. The car mileage has been 1,156,777, an increase of 18,231 miles over the previous year; sweeper mileage, 5,731, a decrease of 5,834 miles, due to the favorable climatic conditions of last winter. The operating expenses represent 11.51c. per car mile, a reduction of three-tenths of a cent over last year. Owing to the great increase in the passenger travel, especially during the summer months, it is now necessary to add at least six more open cars to the rolling stock of this division. The necessity for this is shown from the fact that during the past summer the 28 open cars now in operation have been carrying an average of over 100 passengers per hour.

**THE MONTMORENCY DIVISION,** which runs from Quebec to Montmorency and Ste. Anne de Beaupre, continues to show marked increases, the number of passengers carried being: by electric trains, 816,393; by steam trains, 130,677; making a total of 947,070; an increase on the electric trains of 95,063 passengers, and a decrease upon the steam trains of 25,303, making a total increase of 69,760 passengers over last year. The continued increase in passengers again requires more rolling stock and the purchase of three large cars, with electrical equipment for one, is recommended. No accidents or injuries to passengers have occurred during the year. The freight business is still showing good increases, being 44,813 tons, as against 35,313 the previous year, an increase of 9,500 tons; and notwithstanding the fact that during the year 10 new flat cars and 6 new box cars have been added it is still necessary, in order to properly satisfy the requirements of the services, to add 5 additional flat cars and 5 additional box cars. The Kent House hotel and park have been the means of very considerably increasing the travel upon this division, as evidenced by the increase of passengers carried in the elevator this year, the number of passengers carried being 174,947 as against 146,772, an increase of 28,175 passengers.

**ASSETS.**

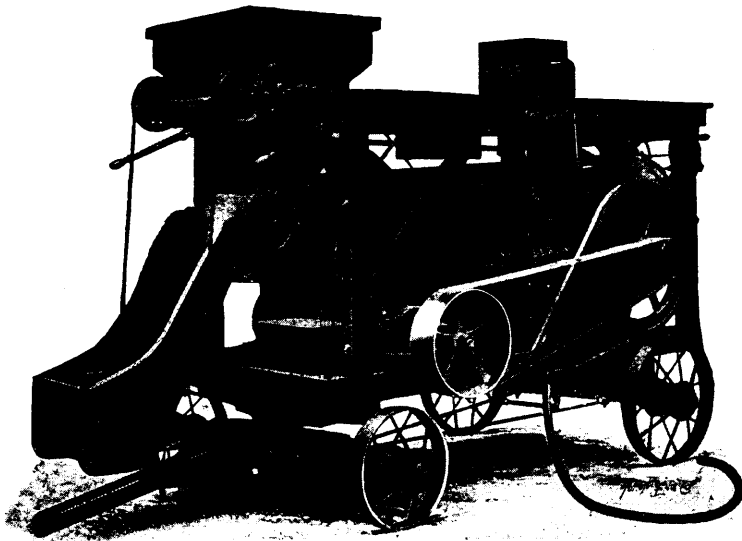
Road and equipment, real estate, buildings, etc., including Kent House	\$5,442,949.21
Cash on hand and in bank	10,664.26
Power division operating accounts due, stores for operating equipment, etc.	44,354.52
Kent House operating account	9,735.29
Citadel division operating account, represented by stores on hand	10,690.53
Montmorency division operating account, stores on hand, cash assets, etc.	33,166.46
Accounts receivable	9,968.30
	<b>\$5,561,528.57</b>

**LIABILITIES**

Capital stock	\$2,500,000.00
Bonds	2,500,000.00
Preferred capital stock	\$ 500,000.00
Less in treasury	250,000.00
	250,000.00
Bills payable	20,187.50
Accrued interest account	23,646.63
Accounts payable	56,064.59
Profit and loss account	211,629.85
	<b>\$5,561,528.57</b>

A. B. Smith, who has been appointed Manager of the Grand Trunk Pacific Ry. Telegraph Department, with office in Montreal, is a native of that city, where he entered the service of the Montreal Telegraph Co. at an early age as messenger, being advanced to the positions of clerk and operator. In 1870 he was appointed chief operator at Hamilton, Ont.; in 1872 travelling inspector for Ontario; in 1880 Division Superintendent at Ogdensburg, N.Y.; in 1883 general inspector, and in 1889 superintendent of construction and maintenance for the entire Great Northwestern Telegraph Co.'s system, into which the Montreal and Dominion Telegraph Co.'s lines had been merged. He is a past president of the Canadian Electrical Association and has on various occasions performed special service work for the Dominion Government.

# BRANTFORD CONCRETE MIXER



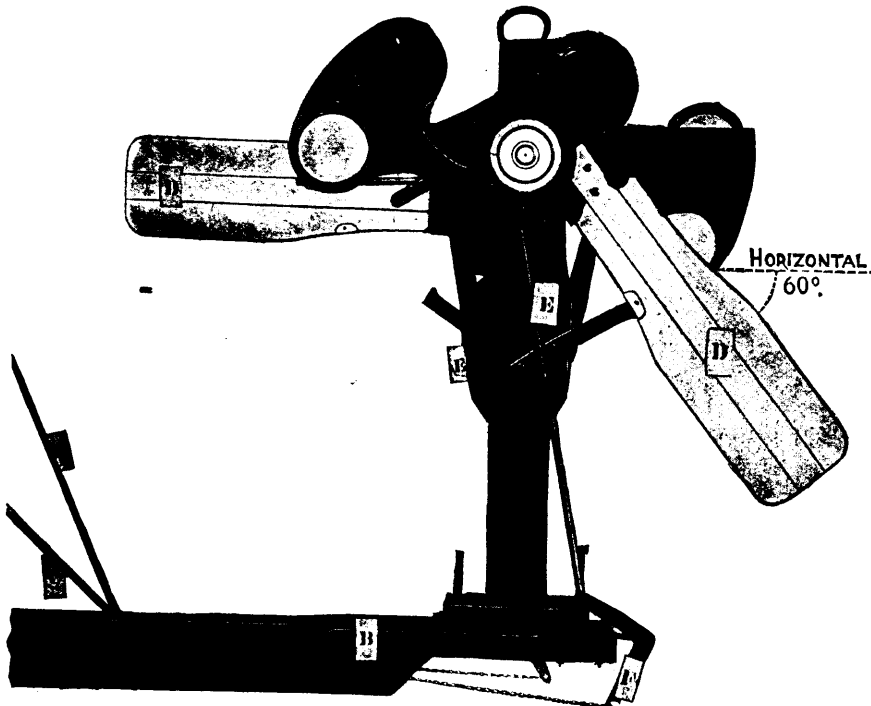
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**TWO DIRECTION TRAIN ORDER SIGNAL**

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Three direct lines between Canada and Boston and other New England points, via Montreal, or Niagara Falls and Buffalo.

**VIA C.P.RY., AND NEWPORT, VT.**

Lv. Montreal	*9.00 a.m.,	*7.45 p.m.
Arr. Lowell	*7.29 p.m.,	*6.37 a.m.
Worcester	*9.04 " "	*9.19 " "
Boston	*8.15 " "	*7.30 " "

**VIA Q.T.RY., AND WHITE RIVER JCT.**

Lv. Montreal	*9.01 a.m.,	*8.40 p.m.
Arr. Lowell	*6.11 p.m.,	*7.17 a.m.
Worcester	*9.04 " "	*9.19 " "
Boston	*6.55 " "	*8.05 " "

**VIA Q.T.RY., WEST SHORE & ROTTERDAM**

Lv. Toronto	*4.10 p.m.
Niagara Falls	*6.15 " "
Buffalo	*4.30 a.m., *7.20 " "
Arr. North Adams	*1.05 p.m., *5.08 a.m.
Worcester	*4.55 " *8.59 " "
Boston	*5.20 " *9.50 " "

**TO PORTLAND, ME., AND OLD ORCHARD, ME.**

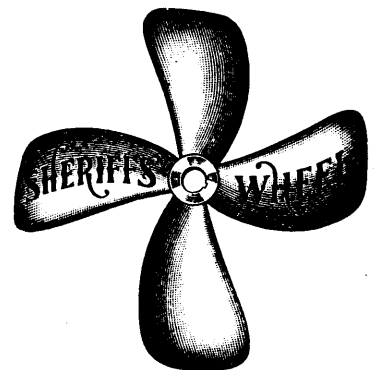
Through the Heart of the White Mountains and famous Crawford Notch, via C.P.Ry.

Lv. Montreal	†9.00 a.m.,	*7.45 p.m.
Arr. Portland	†7.45 p.m.,	*8.05 a.m.
Old Orchard	†8.16 " "	*8.42 " "

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## PROFIT AND LOSS ACCOUNT.

Balance at credit of profit and loss account, June 30, 1904.....	\$ 152,988.72
Net earnings for year 1904-05.....	\$202,465.73
Less interest on bonds, preferred stock, etc., paid and accrued.....	143,824.60
	58,641.13
Balance at credit of profit and loss account, June 30, 1905.....	\$ 211,629.85

## British Columbia Electric Railway.

Following are extracts from the eighth annual report of the directors presented at the annual meeting in London, Eng., Oct. 16:

For the year ended June 30 the gross receipts show an increase over the previous year of \$91,687, and the net earnings, after charging renewals, show an increase of \$44,531. The following charges have been made against the revenue account of the year:

Provision for renewals, maintenance (from which £8,645 18s. 7d. has been deducted for expenditure on renewals during the year).....	£16,564	18	11
Bonus to employes.....	3,611	2	8
Written off preliminary expenses.....	1,862	4	8
Added to capital amortisation fund.....	1,725	1	6
Net profit for year.....	57,876	15	7
Balance from 1903-04.....	2,222	5	6
	£60,099	1	1
Dividends paid.....	35,648	10	0
Leaving available for distribution.....	£24,450	11	1

From this it was decided to pay further dividends, including 3% on the deferred ordinary stock, which would absorb £16,572 7s. 4d.; to write off the balance of the preliminary expenses, £1,650 13s. 4d.; to add to reserve fund, £4,460 10s. 4d., and to carry £1,767 0s. 5d. to next year's account. The number of lights in use June 30, was 136,512, an increase of 23,601 over the number in use same day 1904. The number of passengers carried during the year was 10,352,451, an increase of 1,482,965. During the year £107,445 16s. 8d. has been spent in extensions and improvement of the company's property and equipment. A line has been built to the Gorge in Victoria, and a recreation ground covering 10 acres has been laid out at the end of the line. The Gorge extension has proved very popular with the Victoria public and with visiting tourists. In Vancouver a line has been built to Kitsilano (Greers Beach). This line was opened July 4, and has since been very largely patronized. A traffic arrangement has been made with the C.P.R. in reference to its line built from Vancouver to Steveston, the principal town on Lulu Island and the centre of the salmon fishing industry on the Fraser River. Under the arrangement made the B.C. Electric Ry. has electrified the line, and has operated it since July 4. The operation is an unqualified success. In pursuance of the company's well-established policy of giving the public the benefit of cheapened cost of production, voluntary reductions have been made during the year in the prices charged for electric light. The Vancouver power installation has been completed during the year and is now in full operation. The directors are much gratified by the success of this very important undertaking, the results of which have exceeded their expectations. The full benefit of this new source of power was not obtained until June 1, so that the year's accounts are not largely affected by it. Practically the whole of the share capital of the Victoria Gas Co. has been acquired, and steps are being taken to improve and extend its plant. The results, for the current financial year, of taking over the Vancouver Gas Co. have been

entirely satisfactory to the company, and have been equally beneficial to the consumers, to whom the charge for gas has been reduced. F. S. Barnard and the Hon. R. G. Tatlow, M.P.P., have been appointed as an advisory committee, resident in British Columbia. J. Buntzen, who has hitherto acted as General Manager in British Columbia with such conspicuous success, has been appointed Managing Director, and, although he will in future reside in England, he will visit British Columbia periodically. R. H. Sperling, who for a number of years has been General Superintendent in British Columbia, has been appointed his successor. F. Hope, for many years the Secretary of the company in England, has been appointed Assistant Manager in British Columbia. During the early period of the current year, at the suggestion of the B.C. management, an accountant, in whom the directors have full confidence, was employed to visit British Columbia with wide powers to investigate the company's affairs. His report was of an entirely satisfactory character, and quite confirmed all the advices that had been received from British Columbia and the opinions previously formed by the directors. The share of profits distributed among the employes for the year amounts to \$15,400. G. P. Norton, R. K. Sperling, T. B. Brown and J. Buntzen, the retiring directors, offer themselves for re-election.

Following are comparisons: Railway earnings, Vancouver, \$246,205 against \$196,609; Westminster, \$141,955 against \$132,198; Victoria, \$130,294 against \$122,382. Electric light, Vancouver, \$260,256 against \$244,912; Victoria, \$124,304 against \$115,226. Total earnings, \$903,014 against \$811,327; total expenses, \$573,487 against \$526,331; net earnings, \$329,527 against \$284,996. Percentage of expenses to gross earnings after charging renewals, 63.50 against 64.87.

## Projects, Construction and Betterments.

**Berlin to Wellesley, Ont.**—As a result of a meeting held in Berlin, Ont., recently, an effort is being made to secure the construction of an electric railway from Berlin, through Wellesley township. The Preston and Berlin Electric Ry. is being negotiated with as to the probability of an extension of its lines through the district named.

**Brandon, Man.**—We are advised that the Kensington-Brandon Land and Development Co. proposes to construct ten or twelve miles of single track, on such streets as may be agreed upon between the council and the company. The franchise being asked for is 30 years and renewable. The petition for the franchise is being prepared and will be submitted at an early date. (Oct., pg. 487.)

**British Columbia Electric Ry.**—The initial length of the street railway line to be constructed in North Vancouver, B.C., will be about five miles. It will start from the foot of Lonsdale Ave., and continue along that avenue to 19th St., with branches therefrom as may be arranged between the council and the company. The company agrees to begin construction within six months from the date of the agreement, and to complete and operate the line within twelve months after the commencement of construction. The franchise under which the agreement was reached was passed by the people July 10, and includes the right to operate street lighting, incandescent lighting, and power systems as well as the street railway. The power for the operation of these systems will be furnished by tapping the transmission line at a point near Hastings, and carrying the line across the second narrows of Burrard Inlet to North Vancouver. (Oct., pg. 487.)

**Buffalo, Niagara and Toronto Ry.**—Application will be made next session of the Dominion Parliament for an Act incorporating a company with this title with power to construct a line of railway from Niagara River, at Niagara-on-the-Lake, Ont., to St. Davids, thence to the International boundary at Fort Erie; from St. David's to St. Catharines; from a point on the main line to Port Colborne, and from another point on the main line to Welland, with power to construct branch lines. Power is also asked to operate steamers and ferries in connection with the railway. Collier and Burson, solicitors, St. Catharines, are acting for the promoters.

**Carleton Electric Co.**—The C.E. Co. is discussing the desirability of applying next session of the New Brunswick Legislature for an act to authorize it to construct an electric railway from the corner of Adelaide Street, to Millidgeville, with power to use a portion of the tracks of the St. John Ry.

**Cornwall Electric St. Ry.**—An arrangement has been made with the Stormont Electric Light and Power Co., for the erection of a joint office and store building on Second St., Cornwall, Ont.

**Grand Valley Ry.**—The entrance of this line into the city of Galt, Ont., was effected Oct. 6, when the first cars were run. The line has been in operation from Brantford to the Galt boundary for over a year, during which period negotiations for an entrance were in progress.

**Hull Electric Co.**—Press reports are again current to the effect that the C.P.R. is negotiating for the sale of the Hull Electric Co.'s railway and franchises.

**Huron and Ontario Ry.**—The location plans of a portion of this company's electric railway, from near St. Clair Ave., Toronto Jct., to Edgeley, near Yonge St., Thornhill, have been approved by the Board of Railway Commissioners. This line is projected from Port Perry to Southampton and Kincardine, with branches to Georgian Bay. Surveys have been in progress during the summer from near Thornhill to Markham, evidently a continuation of the Toronto Jct.-Edgeley survey. The company has opened an office in the Confederation Life Building, Toronto. (Dec., 1904, pg. 425.)

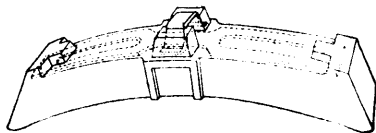
**The Lake Achigan Electric Tramway** is projected from St. Jerome, via Shawbridge to Lake Achigan and New Glasgow, Que., about 25 miles. By building a double dam at Lake Achigan 1,500 h.p. can be developed. It is intended to be wholly a lumbering road, and it is hoped to make a start with construction in the spring. (Oct. pg., 487.)

**Longueuil Street Ry.**—The Longueuil Town Council has passed a by-law granting a 20 years' franchise to the L.S. Ry. The by-law provides that if the company fails to run its cars to the city, the council may, on six months' notice, compel the surrender of the charter; the council also reserves the right to purchase the undertaking at any time at a price to be fixed by valuation. The right is given to lay its tracks on any streets except St. Alexander and Guillaume streets.

**Montreal Park and Island Ry.**—Following are the officers and directors for the current year:—President, Hon. L. J. Forget; Vice-President, K. W. Blackwell; other directors: Col. F. C. Henshaw, Sir H. M. Allan, W. G. Ross, F. L. Wanklyn, D. McDonald.

**Niagara Falls Park and River Ry.**—The International Ry. Co., which operates the N.F., P. and R. Ry., has been refused permission by the Commissioners of Queen Victoria Park, Niagara Falls, to use some of the electricity generated at its Canadian power house for the operation of some of its lines on the U.S. side of the Niagara river.

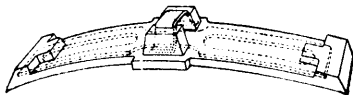




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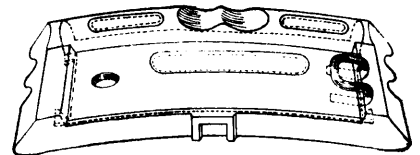
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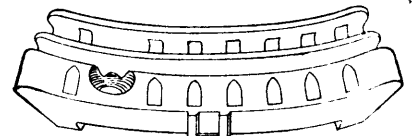
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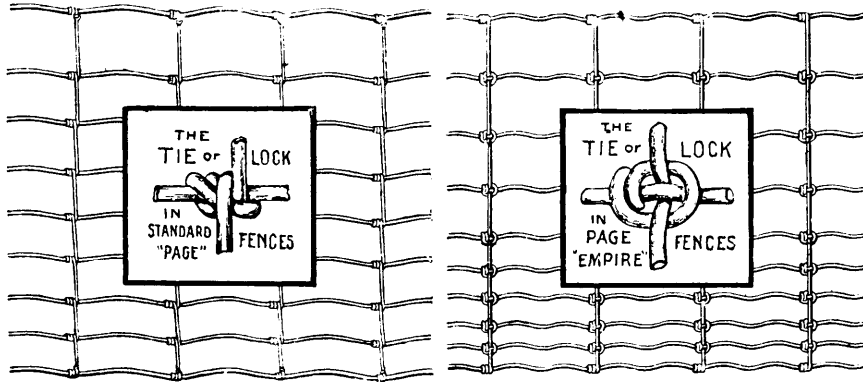
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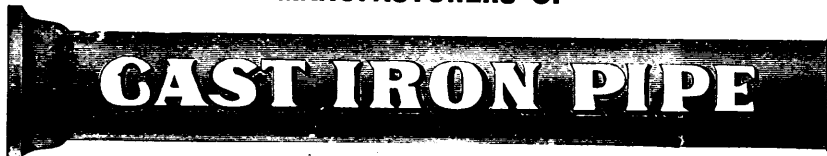
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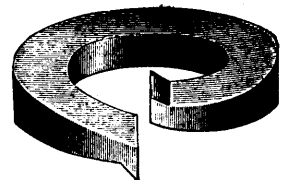
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**Electric Railway Notes.**

The Montreal Street Ry. Co. has awarded the contract for building its new car sheds to the Canadian White Co., Montreal.

J. J. Gibson, Superintendent Hamilton Radial Ry., was presented with a roller top desk by the employes Sept. 30, on the occasion of his marriage.

H. T. Smith, who died in London, Ont., Sept. 29, drove the first street car in the city, and subsequently became Superintendent of the line.

We were advised Oct. 16 that the positions vacant on the London Street Ry. by the resignation of C. E. A. Carr, Secretary-Treasurer and General Manager, and of C. Tolmie, cashier, had not been filled.

D. Moyle, Toronto, is seeking to recover from the Von Echa Co., Woodstock, Ont., 5% commission on the sale of \$200,000 of bonds of the Grand Valley Ry., which has just been completed from Brantford to Galt, Ont.

J. H. Wallace, formerly assistant to the Chief Inspector, Toronto Ry., has been appointed General Superintendent of the Monterey Street Railway, in Mexico, which has been acquired by W. Mackenzie, of Toronto, and associates.

T. D. Benson is reported to have been appointed Secretary-Treasurer, and it is stated that no manager will be appointed. C. E. A. Carr, who recently resigned held the positions of Secretary-Treasurer and General Manager.

C. E. A. Carr, who recently resigned the General Managership of the London Street Ry., is reported by a London paper to have been appointed General Manager of the Winona Electric Ry., Winona, Montana. There does not appear to be a Winona in Montana. Possibly Winona, Minnesota, is meant. Another report states that Mr. Carr has been appointed General Manager of the Electric Company at Helena, Mont.

The Montreal Street Ry. has adopted as its standard the pay-as-you-get-on-car, described on pg. 263 of our June issue. The new car has proved very successful, the public having got accustomed to it, and the collection of fares upon entering the car is not a source of delay. Since this type of car has been in use, there has not been a single accident by persons getting on or off the same. Financially the car receipts show an increase of about 20% in earnings over the other types of car.

A. F. Townsend, who has been appointed Acting Manager, Cape Breton Electric Co., Sydney, N.S., has been engaged with electric railway, light and power companies since 1893, among the positions held being: Superintendent Lewiston and Auburn Electric Light and Power Co., Auburn, Me.; Superintendent of Distribution, Lowell Electric Light Corporation, Lowell, Mass.; Superintendent of Construction, Ponce Ry. and Light Co., Ponce, Porto Rico; General Superintendent Ponce Ry. and Light Co.; General Superintendent Cape Breton Electric Co.

The Electric Railway Employes' Union at its recent convention adopted a proposal to provide pensions for aged members. This involves the increase of the per capita tax from 10c. to 15c. a month, and the devotion of the increase to the creation of a fund of \$10,000. The plan provides for a pension of \$1 a week for members of 10 years' standing, \$2 a week for members of 15 years' standing, and \$3 a week for members of 20 years' standing, who have reached the age of 65 years and upwards, who are prevented from following their occupation. The Toronto branch of the union has adopted the plan, and taken the necessary steps to put it into effect.

**The Vancouver Power Co., Ltd.**

This company was incorporated in 1898 for the purpose of developing the Coquitlam Lake water power to supply the cities of Vancouver and New Westminster, B.C., and the adjoining municipalities with power, light and a general electric service. The first scheme of development did not include Trout Lake, but consisted of a long ditch and flume line, extending from the outlet of Coquitlam Lake to a point near Port Moody, where it was then proposed to have the power house located. This plan was found to be impracticable, owing to the unstable nature of the ground along the route of the ditch and flume line. The alternative route then proposed was a tunnel directly from Coquitlam Lake to the North Arm of Burrard Inlet. It was not until 1901 that this route was examined with a view of proceeding with the work. It was found on examination that Trout Lake was nearer Coquitlam Lake than any point of the North Arm of Burrard Inlet, and added to the advantage of this shorter route was the very valuable storage of water which this lake would create, acting as a balancing reservoir and enabling much higher peaks of power to be attained than if the tunnel was built directly through to the North Arm of Burrard Inlet. This scheme of development was accordingly decided upon, but a great deal of opposition was met with at about this time in securing the necessary water records, causing several months' delay in starting work. As a result, an investigation was finally held at the Government Offices in Victoria, and the Government decided that an important undertaking of this description should not be blocked by the obstacles put forward. As soon as this matter was settled, construction work was proceeded with. The dense forest covering the site of the proposed works was cleared off, excavations were made for the power house, pipe lines and dam, and steam plants were installed for the construction of the tunnel. After the whole scheme had been formulated and laid out on the ground by the engineers, Hugh Cooper, of New York, was called upon to make an examination of the ground and proposed plan of development. He reported "that the provisions of nature here existing are extraordinarily designed for the creation of a successful water power, and the plans provided by the company's engineers suited the conditions." The whole work, with the exception of the tunnel, the construction of the steel pipes, and the clearing of some of the land was accomplished by day labor under the direct supervision of the company's engineers. Trout Lake is situated near the North Arm of Burrard Inlet, and is distant about 16 miles from Vancouver. It has an area of about 500 acres, with an altitude of 400 ft. above sea level, and is separated from Coquitlam Lake by a range of mountains having an altitude of from 3,000 to 4,000 ft.; the two nearest points of these lakes being distant 12,775 ft. Coquitlam Lake has an area of 2,300 acres and an altitude of 432 ft. above sea level. The drainage area of this lake is about 100 square miles and the annual precipitation about 150 inches.

The chief features in the development of this power scheme are as follows:—A dam at the outlet of Coquitlam Lake to raise its level and create storage; a tunnel connecting the two lakes; a concrete dam across the outlet of Trout Lake, which increases the storage capacity of Trout Lake; pipe lines connecting this concrete dam with the power house situated at sea level, and transmission lines extending from this point to Vancouver, New Westminster, Burnaby and Lulu Island.

The dam at the outlet of Coquitlam Lake is a rock-filled timber crib structure, raising the level of Coquitlam Lake 10 ft. and diverting its overflow through the tunnel. It has been made especially substantial to with-

stand the passage over it of large drift logs at flood water. Before deciding upon the location of the concrete dam at Trout Lake, a large amount of preliminary work had to be done in order to ascertain the nature and exact position of the underlying granite bed-rock, which was covered over with a strata of hard-pan of varying thicknesses. Ten shafts were sunk through this strata, varying from 20 to 54 ft. in depth, and connected with drifts running along the bed-rock. In this manner the most suitable location was selected and proved. The excavation was then carried down to the bed-rock for the entire length and width of the dam, requiring the removal of about 20,000 cubic yards of hard-pan and boulders. The dam has a maximum height of 54 ft. and a width at its base of 40 ft., its length on the crest being 361 ft. It is penetrated by ten 54-in. and two 24-in. pipes, all fitted with a special design of gates and screens on the up-stream face. The concrete work amounts to 10,000 cubic yards, and was completed within five months from the date of its commencement, Portland cement being used chiefly in its construction.

The pipe lines extend from the dam to the power house, a distance of 1,800 ft. At present there are laid three large pipes and one 24-in. pipe. The upper 800 ft. of each line is constructed of wooden stave pipes with diameters of 54 in., and the lower 1,000 ft. is of riveted steel construction, varying in diameter from 48 in. to 42 in. at the lower ends. The grading of the trench and the provision necessary for the support of the pipes was probably the most difficult engineering problem involved. Near the lower extremity of the line a vertical rock bluff, 70 ft. in height, was encountered, which made it necessary to carry the pipes on a temporary trestle, built to suit the vertical curves which it was decided to give the pipes at this point. After the pipes were completed, these trestles were replaced with concrete piers. The pipe lines throughout were built to curves and tangents, both vertically and horizontally, angles being considered objectionable. For this reason it has a pleasing appearance and at the same time a little greater efficiency.

The tunnel connects Coquitlam Lake with Trout Lake and has a capacity of about 500 cubic feet of water per second, as nearly as can be calculated. In alignment it is straight, but the gradient from one end to the other is not uniform, having a slight summit at the centre. This was made necessary for drainage purposes during the construction of the work, which was carried into the mountain from both ends. The summit is 22 ft. lower than the Coquitlam portal, and the tunnel throughout is below the hydraulic gradient. The tunnel passes under a mountain about 4,000 ft. in height, and has a length of 12,775 ft. and a width and height of 9 ft. In getting the alignment, the engineers made a triangulation survey over this mountain, but in determining the levels, it was thought advisable to carry the survey around, instead of over, the mountain. This made it necessary to run about 20 miles of levels to connect both ends. A notable feature in this work is the intake gate at the Coquitlam portal which controls the flow of water. This gate is located in the solid rock underground, and is operated from another short tunnel which is 18 feet above the main tunnel at this point. The contract for building the tunnel was awarded to Ironside, Rannie & Campbell, of Vancouver, who started the work Jan. 9, 1903, and carried it through to its completion on April 27, 1905, making an average advance of 15 ft. a day. When both ends met the closing error in alignment was found to be only  $\frac{1}{4}$ th of an inch, and the error in the levels only  $\frac{1}{4}$  inches. Considering the dangerous nature of this work, the contractors and employes are to be congratulated.

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ed on the small number of accidents as well as the rapid prosecution of the excavation.

The power house is situated on the North Arm of Burrard Inlet at sea level, and is built of stone, with a concrete foundation. The only suitable site for this building was on the edge of a rock bluff, which made it necessary to excavate about 15,000 cubic yards of granite before starting the foundation of the building. The capacity of the power house is 12,000 h.p. in four units of 3,000 h.p. each. There are at present installed only three units, and the water is supplied under a static head of 400 ft. The arrangement of the water wheels and the generator for each unit is extremely simple, consisting of a hollow shaft, with the generator set in the centre and a Pelton water wheel at each end, the whole revolving on two ring oiling bearings, kept cool by a water jacket and also by a stream of water passing through the hollow space in the shaft. The generators are 3-phase, 60-cycle Westinghouse alternating current machines with revolving fields, and run at 200 revolutions per minute, the regulating being accomplished by governors operating deflecting needle nozzles, the needles being adjusted by hand for average load conditions.

The transformers are of the air-cooled type, placed in a separate concrete building, which also contains the high potential switches and appliances. The voltage here is stepped up to 20,000 and transmitted under this pressure to the sub-stations at Vancouver, Burnaby, New Westminster and Lulu Island. The transmission line has a length of about 16 miles to Vancouver and consists of a double line of poles built in accordance with standard construction for high potential wires. It presents a notable feature in the crossing of Burrard Inlet near Barnet. The span here is 2,750 ft., and the current is transmitted through steel cables, which are suspended 150 ft. above sea level at their lowest points. On the southerly end of the span are two steel towers, each 140 ft. in height and set on top of a small knoll, bringing the top of the towers 300 ft. above sea level. There are some unique features in the anchoring and the insulating of these cables, but space does not permit of these details being given. Provision has been made in the head gates at the dam and the location of the power house and pipe lines for an ultimate development and utilization of 30,000 h.p. This large amount of power, if used continuously, would be somewhat in excess of the capacity of the tunnel, but as commercial peak loads are only of comparatively short duration, the total power is made attainable by means of the large balancing reservoir which nature has provided in the creation of Trout Lake.

The work of organizing the company and ascertaining the possibility of developing this water power, and afterwards the careful examination into the feasibility of the development proposed by the engineers, has been accomplished by J. Buntzen, as General Manager of the B. C. Electric Ry. Co., the parent company of the Vancouver Power Co., assisted by R. H. Sperling, advising electrical engineer, and to R. M. Horne-Payne, Chairman of the B. C. Electric Ry. Co., is due the credit for finally financing the scheme. The construction work has been performed under the supervision of W. Meredith, of San Francisco, Chief Engineer for the Company, and E. B. Hermon and H. M. Burwell, of Vancouver, engineers in charge of construction.

The name of Trout Lake has recently been changed to Lake Buntzen.

The new line of the Minneapolis, St. Paul and Sault Ste. Marie Ry., about completed between Thief River Falls, Minn., and Kenmare, N.D., has been named by W. R. Callaway, G.P.A., the Wheat Line of North Dakota.

### American Street Railway Association.

This association held its 24th annual convention at Philadelphia, Pa., Sept. 25 to 30, W. C. Ely, of Buffalo, N.Y., President, in the chair. Apart from the discussion of a number of papers, the only important feature of the gathering was its re-organization as the American Street and Interurban Railway Association, and the election of W. C. Ely as President. In the course of his address the President gave a brief review of the advance of electric traction during the year, referring particularly to the growth of the interurban lines. With this growth, he pointed out the necessity of the companies owning the greater part, if not all, of their right-of-way. It was impossible to run cars at high speed along the highways, owing to the restrictions imposed by municipalities. Altogether the provision of a private right of way was most desirable, and this should be secured at the outset, of sufficient width to provide for a double track. In 1904, there were in the United States 993 electric lines, having a total of 30,187 miles of track, operating 75,904 cars and having a total capitalization of three and a quarter billions of dollars, while in Canada there were 42 roads with a total of 900 miles of track, operating 2,639 cars, and a total capitalization of \$69,500,000. The Association now has 206 members, an increase of 10 since 1904, and the cash balance on hand was \$6,732.20.

T. C. Pennington resigned the Secretaryship, after having acted in that capacity for 10 years, it having been decided to maintain headquarters in New York city, and that the Secretary should devote the whole of his time to the duties of the office. The annual banquet was held Sept. 29, at which G. T. Blackstock replied on behalf of "Our Canadian Brethren."

In connection with the central organization a number of sectional associations have been formed, the annual meetings of which were held at Philadelphia during the same period.

### STREET RAILWAY ACCOUNTANTS' ASSOCIATION.

The ninth annual convention of this Association was held Sept. 28-30, W. G. Ross, Managing Director Montreal Street Ry., the President, occupying the chair. In his address he referred to the fact that the membership had increased from 25 at the inaugural meeting in 1897, to 150 at present. After referring to the important work done in formulating the "Standard Classification of Accounts" and "Standard Form of Report" and the indorsement of these standards by the National Association of Railroad Commissioners, Mr. Ross proceeded to outline some of the things that can now be taken up to advantage. "In connection with the various forms and records, one of the important matters still to be followed up and dealt with, is the taking up of these forms and records with the departments they affect, and as new associations are formed, such as the Mechanical and Electrical and Claim Agents, the committee of our Association appointed for this purpose should follow this matter up vigorously so as to endeavor to arrive at a standard set of forms that can as far as possible be used by all companies. Another question that should be given serious thought is the one of depreciation. This matter has been mentioned by previous presidents, especially by H. C. Mackay. Whether any conclusion can be arrived at or not as to the fixed amount necessary to provide for such a fund, it is difficult to say, owing to the various conditions existing with the different companies, but it is a question well worth our best thoughts, especially when we note the collapse of numerous companies within the last year or so. There is another matter which perhaps might well be taken up by the Committee on Standard Forms of Reports and Accounting, that is, enlarging to a con-

siderable extent the statistical information for our monthly and yearly reports. It seems to me that statistical information is of the very greatest importance to every road, not only on its own comparisons, but for comparisons with other companies."

The American Railway Mechanical and Electrical Association held its annual meeting at Philadelphia, Sept. 25 and 26. The membership roll includes 38 company members, 134 active members and 31 junior members, and the finances were reported to be in a satisfactory condition. During the year among the new members added were H. H. Boyd, Assistant Electrical Engineer, C.P.R., Winnipeg, to the active list; Ottawa Railway Co., Ottawa; and Toronto Ry. Co., Toronto, to the company list.

The American Association of Street Railway Claim Agents met Sept. 27, and discussed the question of Fakers, Malingerers and Ambulance Chasers." The Association was organized in 1904, with eight members, and now has a membership of about 60.

### Grain Elevator Notes.

The farmer's elevator at La Riviere, Man., was burned out recently. There were about 8,000 bush. of grain in the elevator at the time.

An action has been entered by Philadelphia bankers to recover \$38,360 unpaid interest and sinking fund on the Great Northern elevator at Quebec.

A site has been secured at Vancouver, B.C., for the erection of a grain elevator there. It is proposed to erect an elevator of 150,000 bush. capacity as an experiment, and to have it ready by Dec. J. E. and E. C. Hall, of Brandon, Man., are the promoters of the enterprise.

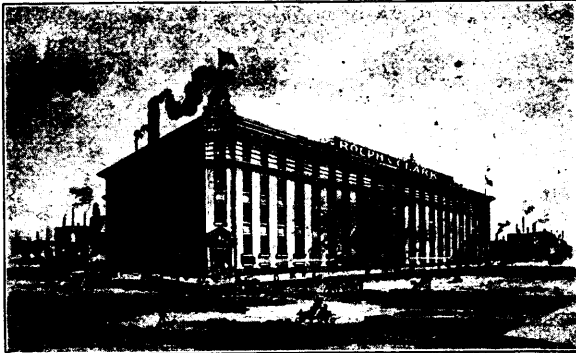
The fitting up of the grain elevator at Prescott, Ont., for re-opening was completed at the end of Sept., and cargoes were received early in Oct. The elevator has a capacity of 1,000,000 bush., and has been closed for some years. It is being operated this season by the Montreal Transportation Co.

In connection with the movement of grain from the west for export, a daily newspaper points out it is expected to move 20,000,000 bush. to Fort William and Port Arthur, Ont., by Dec. 5, about which time navigation will close. The elevator capacity at these ports is about 17,000,000 bush.; the elevator capacity at lower lake ports is about 6,500,000 bush., and at Montreal there is accommodation for 2,000,000 bush. The elevators at Montreal it is calculated could load to ocean liners 7,000,000 bush. before Nov. 20, when that port closes. Canadian grain carrying vessels have an aggregate carrying capacity of 3,620,000 bush., or taking into account the time occupied in making the trip to Kingston and Prescott, they could move about 2,000,000 bush. every eight days. The object of the article is to show that the elevator accommodation at Canadian lower lake ports is not sufficient to move the grain as fast as it can be delivered.

### SHIPPING MATTERS.

#### The Empire-Hosanna Collision.

A formal investigation was held at the Wreck Commissioner's Court, Montreal, Sept. 11 and 13, into circumstances attending the collision between the str. Empire (so called), and the tug Hosanna, in the ship channel, off Longue Pointe, Que., Sept. 5, whereby the latter was sunk. The court was presided over by Commander Spain, R.N., Wreck Commissioner, the assessors being Capt. A. Reid, Port Warden and Surveyor to Lloyd's Register, and W. Gauthier, President Montreal Pilots' Association. Judgment was given Oct. 11 by Commander Spain, the assessors con-



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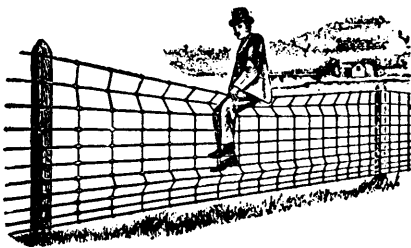
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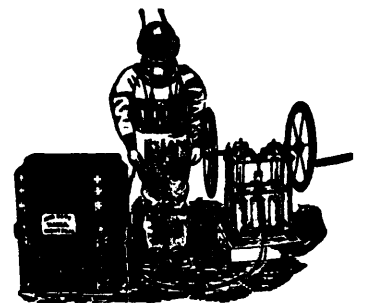
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curing. Following is the full text of the judgment: That the steamship Empire (so called) was not a licensed vessel inasmuch as she carried no proper certificate of registry as such. That this vessel appears to have been navigated throughout in a most haphazard manner and with total disregard to all rules and regulations. There were no proper appliances handy by which the man in the wheel house could communicate with the engine room. There were no certificated deck officers on board except Oliver Gillespie, who disclaimed all responsibility as master, and emphatically denied that he had chartered the vessel to L. J. A. Rosa, on the understanding that he (Gillespie) was to be master. On inspecting the charter party this statement was found to be absolutely incorrect, as one of the sections thereof distinctly states that the vessel was chartered on the condition that Captain O. Gillespie should retain command. In consequence of the steamship Empire (so called) not being kept on the south side of the channel, in rounding gas buoy 174M, which is on the north side, she came into collision and sank the tug Hosanna, which was proceeding up the river on her proper side of the channel; the tug being forced right over the said buoy, breaking the lantern of same. In view of all these facts, the Court finds that the officers and crew of the Hosanna are in no way to blame for the casualty. That the steamship Empire (so called), owned by Capt. O. Gillespie, was entirely to blame for the casualty which resulted in the sinking of the tug Hosanna. Taking into consideration also the wilful misstatements of the master, O. Gillespie, throughout the investigation, the Court considers that he is not a fit and proper person to hold a certificate, and his certificate of competency as master of a passenger steamer in the inland waters, No. 4813, is cancelled. The Court considers that further inquiry should be made into the running of this vessel under a wrong name—her proper name apparently being White Star not Empire—and with certificates of inspection that had expired for some time. In addition to the above facts, evidence was adduced that after the collision with the Hosanna, the Empire (so called) had carried excursionists without having a proper license, and without a regular passenger certificate.

#### Improvement of Fog Horns.

G. De W. Green, Toronto, writes as follows: "The numerous collisions which occur between vessels at sea during the prevalence of fog, and the narrow escapes which we occasionally hear of, but which are generally kept discreetly quiet by captains and vessel owners, would seem to show that the system of fog horns as at present in use is by no means perfect or satisfactory. One defect in them is that, although the sound of a fog horn may be heard by the crew of another ship, there is no means of telling in what direction the vessel on which it is sounded is going, or even where it is, because fog renders futile all reliable calculations as to distance and direction. And again, all or nearly all fog horns, I believe, whether on vessels or on dangerous points of land, are pitched on the same note, which is also conducive to errors, which in some cases end disastrously, as, for instance, when the captain of the steamer Montreal, lying in the Straits of Belle Isle in a fog some years ago, mistook the fog horn of the steamer Lake Erie for the fog horn on Cape Ball, and steaming north to avoid the supposed danger of the Newfoundland coast crashed on to Belle Isle, when the boat became a total wreck—fortunately, without loss of life.

"Now, why should not vessel fog horns be built with a musical scale of not less than five notes, and more if necessary. Taking the scale of C major, the notes would be C, D, E, F, G. To avoid confusion with lighthouse and shore fog horns, a vessel should never use less than two notes, and the order in which these notes are sounded should serve to show in what direction the ship is moving. As an example of what could be arranged:

The notes C, D, would mean 'Going due north.'

The notes D, C, would mean 'Going due south.'

The notes C, E, would mean 'Going due east.'

The notes E, C, would mean 'Going due west.'

The notes C, D, E, would mean 'Going due northeast.'

The notes C, E, G, would mean 'Going due northwest.'

The notes E, D, C, would mean 'Going due southeast.'

The notes G, E, C, would mean 'Going due southwest.'

"The intermediate points of the compass, such as NNE, SSW, etc., could all be indicated by adding another note or two to the scale. This is based on all vessels going north and east using the ascending scale, and those going south and west the descending scale.

"There would be a little difficulty, of course, as regarding sailing vessels that had no steam for sounding their fog horns, and would necessitate their carrying a supply of horns pitched on different keys to be used by the blower in their proper order. Such, in brief, are the suggestions I would make, and should these ideas or similar ones be utilized with the result of making sea-travel safer and freer from the risks which now attend it, these few lines will not have been written in vain."

#### Lake Freight Situation.

Our Winnipeg correspondent wrote on Oct. 16 as follows:—The old story of blockades at the eastern elevators which has been to the fore for the past few months is again an actuality, as Depot Harbor, Midland, Collingwood, Owen Sound, Meaford and Point Edward, Ont., are already blocked on account of lack of cars to keep them clear, and the loss of the Midland and Goderich elevators by fire is now being severely felt by the grain trade. This elevator blockade every fall is a matter that should be looked into by the Government, as the diversion of a large portion of the Canadian crop to Buffalo and other U.S. ports is a much more serious matter than appears on the surface. If this traffic were held to Eastern Canadian channels, it would give employment to thousands of Canadians and the spending of thousands of dollars for wages of railway, elevator and other employes, to say nothing of the loss to Canadian banks, through the business being handled by Buffalo and New York. Buffalo will this season secure at least 50% of the Canadian crop, as at the present writing alone, some 6,000,000 bushels of wheat have been contracted for by U.S. vessels, to move from Fort William to Buffalo, which is a mere drop in the bucket to what will move at that port later. Canadian vessels are now getting 3c. to Bay ports and the same rate is in effect via U.S. vessels to Buffalo, while the Canadian vessels are refusing to go to Buffalo at all at present. This is a serious matter, as the Canadian owners will find that with Georgian Bay elevators blocked, they will be forced to look for business to any port and by the time they start looking for Buffalo business, they will find that the U.S. lines have taken everything in sight. Grain rates for Nov. shipment are now quoted at 4c., Buffalo. Coal is still moving to Fort William in considerable quantities, almost entirely in U.S. bottoms.

#### Notices to Mariners.

The Department of Marine has issued the following:—

No. 83. Sept. 7.—Quebec—199. River St. Lawrence, Lake St. Peter, Louiseville ranges, foundation of front lighthouse placed.

No. 86. Sept. 15.—Nova Scotia—203. South coast, Sober Island to Ebor Secum, buoys established. Prince Edward Island—204. East coast, Murray Harbor, Beach point, storm signal station established.

No. 87. Sept. 18.—Quebec—205. River St. Lawrence, float placed off the east side of Ile Ste. Therese.

No. 88. Sept. 25.—Nova Scotia—206. East coast, Scattarie Island, north-east point, change in fog alarm.

Hay Lake channel, Nine Mile Point, alteration in buoyage.

No. 89. Sept. 25.—British Columbia—207. Strait of Georgia, Sandheads at entrance to Fraser River, lightship established, bell buoy discontinued, light discontinued.

No. 90. Sept. 25.—Ontario—208. St. Joseph channel, lighthouse moved from North Sister rock to West Sister rock.

No. 91. Oct. 2.—Ontario—209. Lake Ontario, Toronto harbor, eastern entrance, storm signal. 210. Lake Erie, Pelee Island, storm signal. 211. Lake Huron, east side, Southampton, storm signal. 212. Lake Superior, Thunder Bay, Fort William, storm signal.

No. 92. Oct. 2.—New Brunswick—213. South Coast, Bay of Fundy, Beaver harbor, Drews head, change in character of light. 214. South coast, Bay of Fundy, Point Lepreau, storm signal. Nova Scotia—215. Cape Breton Island, east coast, Morien or Crew Bay, Port Morien, storm signal.

No. 93. Oct. 3.—Nova Scotia—216. South coast, Madame Isle, Petitdegrat inlet, bell buoy established.

No. 93. Oct. 4.—Quebec—219. Gulf of St. Lawrence, Gaspe coast, storm signal stations.

No. 94. Oct. 5.—New Brunswick—222. Northumberland Strait, Shediac harbor, Zephyr rock, gas buoy placed for autumn.

The following has been issued by the U.S. Hydrographic Office:—

No. 39. Sept. 30.—St. Mary's River—1536.

The first of the two new transatlantic steamers for the C.P.R. is expected to be launched Nov. 11, and the second about a month later.

The Dominion cruiser Canada will be sent on another winter cruise to the West Indies for the purpose of training the crew in seamanship and gunnery.

The Allan-State Line has withdrawn its service between Glasgow and New York on account of the heavy charges for pier accommodation, and has replaced it with a Glasgow-Boston service.

A suggestion is made that Canada shall cancel the subsidy to the Canada-Australian line of steamers, on the ground that the recent regulations regarding the valuation of imports by the Australian Commonwealth is a discrimination against Canadian trade. The subsidizing of a direct line to New Zealand is advocated instead.

The Allan Line has placed orders with British shipbuilders for two additional turbine steamers. They are to be longer than the Victorian and Virginian, and will have a speed of 18½ knots an hour, which is one knot an hour faster than the pioneer trans-Atlantic turbine steamers. They are expected to be ready for service in the spring of 1907 at the latest.



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ESTIMATES PROMPTLY FURNISHED.

The statement of receipts and expenditures for the year ended June 30, issued by the Finance Department at Ottawa, shows the expenditure on capital account for public works, railways and canals to have been \$9,840,028; and the expenditure on railway subsidies \$1,275,629, against \$5,832,953 and \$2,046,878, respectively, for the previous year.

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LIST OF STEAMSHIPS REGISTERED IN CANADA FROM SEPT. 15 TO OCT. 15.

Name.	No.	Where and When Built.	Engines, etc.	Length	B'dth.	Depth.	Gross tons.	Reg. tons.	Home Port.	Owners.
Arthur Mac.	116,843	Owen Sound, Ont., 1904.	Screw N.H.P.	70.0	15.4	6.0	68	53	Owen Sound, Ont.	M. McInnes, Meaford, Ont.
Ben Hur	116,730	St. John, N.B., 1903.		44.8	8.3	3.5	14	9	St. John, N.B.	H. J. Fleming, et al., St. John, N.B.
Charles F.	94,718	Port Stanley, Ont., 1905.		31.5	10.4	3.4	8	5	Port Stanley, Ont.	H. Taylor, Port Stanley, Ont.
Crawford	116,844	Wiaraton, Ont., 1905.		86.0	15.9	6.5	50	37	Owen Sound, Ont.	The Crawford Tug Co., Ltd., Wiaraton, Ont.
Geneva	116,966	Belfast, Me., 1904.		42.6	11.8	4.0	15	7	St. Andrews, N.B.	G. C. Pendleton, West Isles, N.B.
Glenclah	112,205	Dundee, Scotland, 1905.		250.0	43.2	23.5	2272	1454	Hamilton, Ont.	MacKay & Magee, Hamilton, Ont.
Hercule	116,607	Sorel, Que., 1904.		58.0	15.1	7.5	45	28	Montreal, Que.	J. H. Dansereaux, Vercheres, Que.
Irene	121,823	St. John, N.B., 1904.		37.9	9.5	3.5	10	7	St. John, N.B.	F. P. Starr, St. John, N.B.
John McRae	112,339	Meaford, Ont., 1905.		62.0	14.0	6.4	34	23	Collingwood, Ont.	J. McRae, Meaford, Ont.
Lady of the Sea	117,125	Kingston, Ont., 1901.		31.6	7.2	2.9	5	3	Kingston, Ont.	I. H. Davis, Kingston, Ont.
Ludlow	121,831	St. John, N.B., 1905.		114.0	34.4	11.7	534	363	St. John, N.B.	The City of St. John, N.B.
Mather	117,193	Toronto, Keewatin and Kenora, Ont., 1904.		87.5	19.0	10.5	145	98	Kenora, Ont.	Keewatin Lumbering and Mfg. Co., Keewatin, Ont.
Ona	121,708	Hamilton, Ont., 1887.		36.0	9.5	3.5	9	6	Toronto, Ont.	B. Yates, Penetang, Ont.
Tuttsy	111,885	Peterboro, Ont., 1905.		35.5	7.5	3.0	9	6	Peterboro, Ont.	H. Allen, Peterboro, Ont.
W. J. Martin	116,664	Midland, Ont., 1905.		68.7	15.4	10.0	86	42	Midland, Ont.	Chas. Martin, Midland, Ont.

LIST OF SAILING VESSELS AND BARGES REGISTERED IN CANADA FROM SEPT. 15 TO OCT. 15.

Name.	No.	Where and When Built.	Rig.	Length	B'dth.	Depth.	Gross tons.	Reg. tons.	Home Port.	Owners.
Abbie May	121,802	Shelburne, N.S., 1904.	Sloop	30.0	10.6	6.0	10	10	Yarmouth, N.S.	W. E. Atkinson, Cape Island, N.S.
Alice M. Atwood	121,801	Clark's Harbor, N.S., 1904.		30.0	10.6	6.0	10	10		D. A. Atwood, Clark's Harbor, N.S.
Burque Brothers	111,897	Church Point, N.S., 1905.		33.0	12.2	5.1	10	10	Weymouth, N.S.	P. Bugue, Church Point, N.S.
Catherine	111,898	Belliveau's Cove, N.S., 1905.		33.0	12.6	5.4	11	11		M. Belliveau, Grosses Coques, N.S.
Dorothy	111,899	Meteghan River, N.S., 1905.	Schr.	62.0	19.4	6.6	49	49		J. H. Longmire, Bridgetown, N.S.
Fish Hawk	121,804	Cape Island, N.S., 1904.	Sloop	31.0	11.0	6.0	10	10	Yarmouth, N.S.	G. A. Surin, Clark's Harbor, N.S.
Flourence	116,306	Rusticoville, P.E.I., 1905.	Schr.	81.3	24.0	8.0	95	74	Charlottetown, P.E.I.	F. Gallant, Rusticoville, P.E.I.
Hattie Quinlen	121,805	Clark's Harbor, N.S., 1904.	Sloop	30.0	10.6	6.0	10	10	Yarmouth, N.S.	W. L. Quinlen, Clark's Harbor, N.S.
Hootalinqua	111,960	Bennet Lake, B.C., 1905.	Barge	68.7	25.1	4.6	67	67	Victoria, B.C.	British Yukon Nav Co., Vancouver, B.C.
Ile Marie	116,608	Vercheres, Que., 1900.	Scow	100.2	22.7	6.4	130	126	Montreal, Que.	J. H. Dansereau, Vercheres, Que.
Jean	116,916	Liverpool, N.S., 1905.	Schr.	118.0	28.9	11.0	215	190	Liverpool, N.S.	D. C. Mulhall, N.S.
Madeline	121,676		Sloop	25.0	9.0	4.0	7	7	Vancouver, B.C.	A. Austin, jr., Vancouver, B.C.
Mary J.	121,803	Cape Island, N.S., 1904.		31.0	10.6	6.0	10	10	Yarmouth, N.S.	M. Atwood, Cape Island, N.S.
May Queen	111,896	Church Point, N.S., 1905.		36.4	13.1	5.4	15	15	Weymouth, N.S.	M. C. Thibodeau et al., Church Point, N.S.
Minnie May	116,536	Lunenburg, N.S., 1905.	Schr.	49.3	16.1	7.2	29	29	Lunenburg, N.S.	C. Geldert, Lunenburg, N.S.
Montana	116,535	Lunenburg, N.S., 1905.		89.8	24.6	10.0	96	85		J. A. Silver, Lunenburg, N.S.
Nellie Myrtle	121,811	Parker's Cove, N.S., 1905.		29.0	10.5	5.8	11	11	Digby, N.S.	F. P. Titus, Westport, N.S.
Princess Victoria	116,935	Masset, B.C., 1905.		55.0	16.0	6.0	20	17	Victoria, B.C.	D. Stanley, Massett, B.C.
St. Louis	121,661	Bay St. Paul, Que., 1905.		77.0	24.6	6.8	73	73	Quebec, Que.	L. Mallioux, et al., Bay St. Paul, Que.
Woodward, no.	111,960	New Westminster, B.C., 1905	Barge	65.0	23.0	4.5	62	62	N. Westminster, B.C.	D. Woodward, Woodward's Landing, B.C.

Maritime Provinces and Newfoundland.

The Department of Marine is arranging for the opening of a nautical school at North Sydney, N.S.

A. B. Caldwell, Lunenburg, N.S., has been appointed measuring surveyor of shipping at that port.

Reports state that 16 new iceboats are being built for service during the winter on the Cape route between New Brunswick and Prince Edward Island.

A press report states that the Dominion Coal Co. is arranging to have three more steamers built in England of the same type as the Christian Knudsen.

The contract for dredging at St. John, N.B., has been awarded to G. S. Mays, St. John. He has already a dredge at work, and is arranging with the city council in regard to wharves, etc.

The str. Fairmount, of Montreal, principally engaged in the Upper Lakes trade, has recently taken a cargo of iron ore from Pilley's Island, Nfld., to Washburn, Wis., on the south shore of Lake Superior.

The Neptune Whaling Co., which has its head offices at St. Johns, Nfld., and its station at Lark Harbor, Nfld., is seeking to raise additional capital. The unsubscribed capital at the date of the shareholder's meeting, Sept. 28, was \$30,000.

The str. Pro Patria, which was wrecked some time ago, is being rebuilt, and it is proposed to rename her the Canada. A company is being formed to put the steamer on a route between Halifax and Cape Breton ports. Mayor Lewis, of Louisburg, N.S., is active in promoting the new company.

The Halifax Dry Dock has been given the

contract to repair the damage to the str. Thrift, recently in collision with the str. Christian Knudsen. The owners of this steamer claim \$80,000 damages from the Thrift, which is being held by the sheriff at North Sydney, in default of furnishing bail.

The Alexander Dunbar & Sons Co., which has been incorporated under the New Brunswick Companies' Act, with a capital of \$75,000 and offices at Woodstock, N.B., is authorized among other business to engage in shipbuilding, and the construction of marine engines. Alex. Dunbar, sr. and jr., Andrew W. and H. Dunbar are the provisional directors.

The registration of shipping in Newfoundland, is directly under the British Board of Trade, and is governed by the Registrar-General of Shipping, in London, Eng. All copies of transactions in Newfoundland are forwarded to London and published in the official publications. An abstract of the information furnished to the Registrar-General is published annually in the Newfoundland Customs Returns.

Steamship Arcola Co., has been incorporated under the New Brunswick Companies' Act with a capital of \$94,950, to purchase the British str Arcola, and to carry on a general navigation business. The offices of the company are at Rothesay, N.B., and the provisional directors are: R. P. W. and J. R. Thomson, A. Porter and R. T. Leavitt of Rothesay. The steamer purchased was formerly known as the Bardistan, and will be utilized to replace the Battle liner Pharsalia.

In connection with the proposal to construct a new icebreaking steamer to be put on the winter route between Prince Edward Island and the mainland, the Department of

Marine brought out C. Duguid, of London, Eng., for consultation. Mr. Duguid has made an inspection of the route, and collected all the information available as to weather conditions, etc. We were informed Oct. 10, that the undertaking was not sufficiently advanced to state when a contract would be let or when the steamer would be ready for service.

The Department of Marine has under consideration tenders for the maintenance of a wrecking and salvage plant at Sydney, N.S., for use in the Maritime Provinces. The Government subsidy is \$10,000 a year, payable one-half on July 1 in each year, and the balance at the end of the calendar year; the contract to run for a period of five years, with right of renewal, but subject to cancellation on 30 days' notice by the Minister of Marine. The tenderers were required to specify the plant which would be provided, and the terms upon which any or all of it would be available for service to owners of wrecks or underwriters.

The Canada Atlantic and Plant Steamship Co.'s annual meeting was held in Halifax, N.S., Sept. 25. We have not received a copy of the annual report, but have been officially informed that it showed the company to be in a healthy condition, although passenger traffic in 1904 decreased owing to unfavorable weather conditions and counter attractions in the United States, which largely lessened the tourist travel. Following are the directors and officers for the current year: President, A. W. Perry; Vice-President, McC. Grant; other directors, H. McInnes, W. Mitchell, H. G. and B. F. Perry; Secretary and Eastern Manager, H. L. Chipman; Auditor R. C. Verner.

The Charlottetown Steam Navigation Co. has entered into a contract with the Swan, Hunter and Wigham, Richardson Co., Neptune



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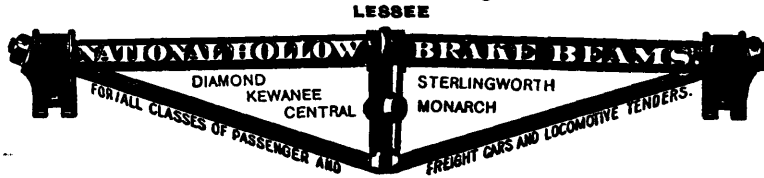
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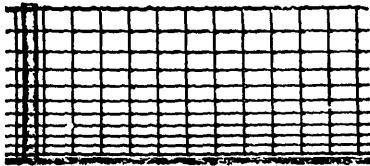
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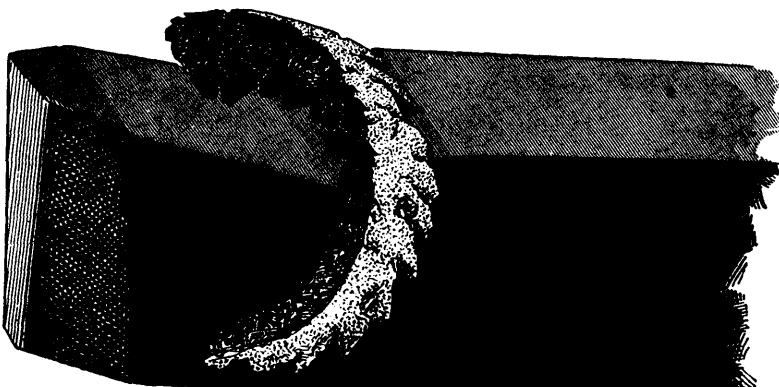
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Works, Newcastle-on-Tyne, Eng., for the construction of a steamer slightly larger, but in all other respects a duplicate of the Northumberland, built in the same yards. The dimensions of the new steamer will be:—length, 235 ft. between perpendiculars; breadth, 34 ft.; depth, 13 ft. 10 in. to main deck. She will be propelled by twin screws, driven by triple expansion, reciprocal engines. The boiler and engines are to be more powerful than those of the Northumberland, and are to give a speed of 16½ knots an hour. The new steamer will be laid out internally similarly to the Northumberland, and her general fittings will be the same; electric light and all other of the latest appliances will be provided. The new steamer is expected to be delivered about the middle of May, 1906, when she will be put on the Summerside-Point du Chene route, and the Northumberland will be placed on the Pictou route.

### Province of Quebec Shipping.

The Leyland Line str. *Virginian*, which went ashore on Crane Island, Sept. 1, was got off Oct. 6, and towed into Quebec.

The Dominion Government proposes to construct a marine railway to accommodate vessels up to 3,000 tons, at Sorel, Que.

P. A. Jodoin, Beloeil, Que., has been appointed Superintendent of the Chambly Canal, succeeding P. B. Benoit, who has been appointed purchasing agent for the Quebec canals.

The St. Lawrence Terminal Co. has been licensed to do business in the province of Quebec. Its chief place of business is at Montreal, and its principal agent is G. T. Smith.

The Shipping Federation of Canada has made a representation to the Dominion Government in favor of the construction of a larger dry dock, the present one at Levis being too small to accommodate the vessels now coming to Montreal.

An Ottawa press despatch states that the Dominion Government is being urged by deputations from the district to construct a new dry dock alongside the present one at Levis, Que., 1,000 ft. long, and considerably wider than the present one.

The Colonization Society of Lake St. John, proposes to provide some new steamers for Lake St. John, and the Metabchouan, Oshuapmouchouan, Mistassini, Peribonca and other rivers flowing into it. The type of vessel suggested is the flat-bottomed stern-wheel steamer.

The Allan Line str. *Victorian*, which went ashore at Cape St. Catherines, Que., Sept. 1, was towed to Quebec, where temporary repairs were made and she subsequently sailed for Great Britain, where permanent repairs will be made. The investigation into the stranding has been postponed.

The Minister of Marine, together with representatives of the Shipping Federation, has completed an inspection of the St. Lawrence between Rimouski and Montreal. The object was to see what had been done in the way of placing aids to navigation, and what further it was necessary to have done.

The str. *Bay State* was towing two barges in the river channel at Montreal, Sept. 29, and the str. *Universe* was also coming into port, when, in order to avoid a collision, the *Universe* altered her position and collided with two of the Harbor Commissioner's dredges, sinking one. An investigation has been held by Commander Spain, Wreck Commissioner, and judgment reserved.

The Supreme Court has rendered judgment in the Canada-Cape Breton collision case.

This collision occurred in June, 1904, and resulted in the sinking of the *Richelieu* and Ontario Navigation Co.'s str. *Canada*, with the loss of several lives. Actions were taken in the Exchequer Court by the owners of each steamer for damages and an investigation was held by Capt. Salmon, then Wreck Commissioner. The judgment of the Exchequer Court was to the effect that each vessel was responsible for the collision and directed each company to pay for the damages to the other's steamer. The Supreme Court, on the appeal of the Dominion Coal Co.—the owners of the Cape Breton—has reversed this decision, and finds that the str. *Canada* is to be blamed for the collision between the two vessels. A decree was ordered to be entered for the appellants in the action and in the cross action, with costs on both in both courts, against the respondents and the record to be remitted to the Exchequer Court, Quebec Admiralty District, for the assessment of damages to be paid to the owners of the Cape Breton steamship. The judgment of the Wreck Commissioner's Court was in accordance with this finding, but its order suspending the certificate of the captain of the *Canada* was nullified by the Minister of Marine. Capt. Salmon resigned his office at the time, alleging that an effort had been made by the Minister of Marine to influence his decision in the matter.

### Ontario and the Great Lakes.

The Owen Sound Dredging Co. has received a contract for dredging at Penetanguishene harbor.

An order has been placed at Kingston for the construction of the steel framework of a passenger steamer for western waters.

The Dominion Government dredge *Nipissing* has been at work since Oct. 4, dredging in Hamilton Harbor, in connection with the improvements arranged for there.

The Rideau Navigation Co.'s str. *Rideau King* is to be replanked above the waterline, and to have a number of internal improvements made during the winter.

The repairs to the Dominion Government str. *Aberdeen* have been practically completed and she was expected to leave the Polson Iron Works yard, Toronto, by the end of Oct.

D. Brown of the Mare Island Navy yard, Cal., has been appointed to take charge of the office staff of the Collingwood Shipbuilding Co., relieving the Superintendent of the inside work.

The Great Lakes Dredging Co. has purchased a site at Island No. 2, Fort William, Ont., on which it is proposed to construct a dry dock, marine railway, foundry and machine shop.

Recent press reports stated that the C.P.R. had arranged to add several new steamers to its upper lakes fleet. We were advised, Oct. 5, that no action whatever had been taken in this direction.

The Dominion Government has decided, it is stated, to pay \$10,000 to the widow of Capt. Couillard of Montebello. Capt. Couillard was killed by an explosion of acetylene gas on the lighthouse tender *Scout* in April.

As a contribution to the controversy over the supply of Canadian vessels on the upper lake route, it has been pointed out that while five Canadian vessels were unable to obtain cargoes last week, the stock of grain at Port Arthur and Fort William increased only 488,000 bushels.—*Toronto Globe*, Oct. 4.

The traffic through the Canadian and the U. S. canals at Sault Ste. Marie for Aug., totalled 6,327,595 tons against 5,644,772 tons for Aug., 1904. The tonnage passing through

the Canadian canal was 599,980 tons, making a total of 3,748,142 tons for the current season.

The St. Lawrence and Welland Canal systems as well as the Sault Ste. Marie lock were opened for Sunday traffic, Oct. 1, and will be kept open on Sundays as well as week days, until the close of navigation. The lights and other aids to navigation will be maintained at Fort William and other points up to Dec. 15.

The Exchequer Court has decided in favor of the Crown in the petition of right brought by the owners of the str. *Erin*. The steamer was damaged by colliding with the entrance piers at Farran's Point Canal, and it was alleged that there had been negligence on the part of the Crown's servants in constructing the pier so as to interfere with navigation.

The str. *Turbinia* made her last trip between Hamilton and Toronto, Oct. 14; and subsequently left Hamilton for the West Indian Islands, among which she will trade during the winter tourist season. The Turbine Steamship Co., owners of the *Turbinia*, are figuring on the cost of a light draught passenger steamer to run between Hamilton and Dundas, Ont.

The Dominion Government has decided to construct a temporary breakwater at Port Arthur, Ont., and as a result, the Canadian Northern Coal and Ore Dock Co. has decided to abandon the attempt to put a crib pier front to the dock it was erecting. A recent storm swept away the cribwork then completed, and it is now intended to put in a pile front filled in with stone.

The Minister of Railways and Canals has completed an inspection of the St. Lawrence and Welland canals. He also inspected the works in progress at Port Colborne, Ont. In connection with the Trent Valley canal project he visited Port Hope and Trenton and received deputations advocating their respective claims to have the Lake Ontario outlet of the canal located there. He was accompanied by M. J. Butler, Deputy Minister; and C. Schrieber, C.M.G., former Deputy Minister.

The Muskoka Lakes Navigation and Hotel Co. proposes to build a new steamer for next season's business. The new steamer will be constructed of steel, fitted with twin screws, driven by triple expansion engine at a speed of 16 miles an hour. The hull will have a length of 155 ft. and a breadth of 30 ft. She will be fitted with all modern improvements, and will have accommodation for 1,000 passengers. All the details of construction have not been settled and the contract has not been let.

The Mathews Steamship Co. has been incorporated under the Ontario Companies' Act, with a capital of \$250,000 and offices at Toronto, to carry on a general navigation business. The provisional directors are A. E. Mathews, R. L. Taylor, W. B. Raymond, F. Ford and B. Osler. The company proposes to engage in the general freight trade from Montreal to Fort William, and to carry grain and flour cargoes on the return journey. Orders have been placed in Great Britain for the construction of two steamers of full canal size to be delivered in May, 1906, and tenders are being asked for two other steamers.

The str. *Glenellah*, built at Dundee, Scotland, for the Union Steamboat Co., Hamilton, Ont., arrived at Toronto, Oct. 3, and subsequently left for Fort William. She brought out a cargo of 1,000 tons of fire brick, and occupied 14 days in crossing the ocean, during which she encountered heavy winds. She is of the full canal size, length 257 feet over all; breadth 43 ft.; depth 27 ft., and has a registered tonnage of 1,453. This steamer will be

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Erie R. R. Transfer & Clipping House, Chicago, Ill.	100 cars in 10 hrs.	"
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Burlington Elevator Co., Peoria, Ill.	500,000	"
Canada Atlantic Railway Elevator, Goteau Landing, Que.	500,000	"
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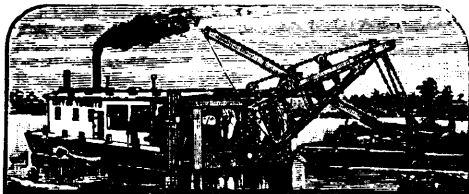
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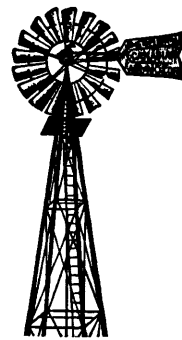
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used in the grain carrying business on the Upper Lakes, and has a carriage capacity of 120,000 bushels. The Glenellah is commanded by Capt. Geo. Mackey, of St. Catharines, and her chief engineer is John Sweatman.

The United States Government has approved of some amendments in the rules governing the navigation of St. Mary's River. The amendments provide that no vessel shall navigate the narrow parts of the river at a greater speed than nine miles an hour; vessels going in the same direction shall not pass or approach each other nearer than a quarter of a mile. Other amendments provide that three long blasts of the whistle, followed by two short blasts, when sounded from a patrolling vessel, will indicate that the vessel to which such signal has been given must stop until further orders from the patrol ship. No steamer stemming the current shall be allowed to tow any vessel or vessels unless such steamer has the power to move or stop the tow, at a rate of at least three miles an hour. Provision is also made that steamers shall not pass in the widest parts of the river more than two abreast.

### Manitoba and the Northwest Territories.

The Dominion Government survey and patrol str. Arctic, which has been in Hudson Bay and adjacent waters for a couple of years, returned to Quebec Oct. 5.

The Transportation Commissioners held sittings at Edmonton, Alta., when evidence was given as to the navigability of the Saskatchewan River, and the improvements necessary to be made to ensure safety. At Regina, Sask., the question of the opening of regular navigation on Hudson Bay was discussed.

The Hudson's Bay Co.'s str. Stork, which left Charlton Island, Hudson Bay, Sept. 19, 1904, arrived in London, Eng., Oct. 4. In 1904, owing to a succession of gales the steamer was driven back to Charlton Island, and was kept there for ten months. The vessel had a cargo of £70,000 worth of furs on board.

An Order-in-Council has been passed to the effect that during the seasons of 1905 and 1906, the owners of steamboats on the Athabaska and Mackenzie Rivers be permitted to acquire permits without payment of the dues prescribed for cutting timber within the boundaries of Manitoba, the N. W. Territories, and the railway belt of British Columbia, and that any dues heretofore collected are to be remitted.

The Minister of Public Works has returned to Ottawa from a trip to Winnipeg and other points in the west. He stated that it was the intention of the Government to call for new tenders for the improvements to the St. Andrew's Rapids on the Red River, and added, it was fortunate the work was not proceeded with under the old plans, as since they were prepared it has been discovered that the flood tide on the river is much greater than was anticipated, this year it being seven feet greater than the average height. The new plans and specifications are in course of preparation.

### B.C. and Pacific Coast Shipping.

The Mainland Transfer Co. has reduced its capital to \$70,000, divided into 700 shares of \$100 each.

The lower Yukon River str. Hannah has completed five trips this season, breaking all former records on the river.

A quarantine steamer, 100 ft. long, 20 ft. beam, and to have a speed of 12 knots an hour, is being built at Esquimalt, B.C., for the Dominion Government.

The Pacific Whaling Co. has been authorized to carry on business in British Col-

umbia. The company's capital is \$200,000; its B.C. office is at Victoria, and Capt. S. Balcom is its attorney.

The New England Fish Co. of Boston, Mass., and Vancouver, B.C., has placed an order in Philadelphia, Pa., for a steam trawler for its Pacific coast fishery. The new steamer is expected to be ready in April, 1906.

The C.P.R. has just had built at New Denver, B.C., a steamer to take the place of the Slocan, on the Slocan Lake. The machinery of the old steamer has been transferred to the new hull, which has also been named Slocan.

Col. Anderson, Chief Engineer of the Department of Marine, on his recent visit to the Pacific Coast, arranged for placing a lightship on the Sandheads at the mouth of the Fraser River, Oct. 15, and selected stations at which lighthouses are to be built, and lights or other buoys to be placed.

The sealing schooner Acapulco, which was seized at Victoria for non-payment of wages, has been sold for \$1,000. The vessel sailed from San Francisco, Cal., with temporary registration papers for a Mexican port, but went on a sealing expedition, which resulted in a number of complications at Victoria.

The keel of the new steamer for the C.P.R. has been laid at Esquimalt, B.C. The new steamer will be similar to the Princess Beatrice in general design, but her accommodation will be arranged more on the lines of the Princess Victoria. Her dimensions will be: length, 226 ft. between perpendiculars; breadth, 40 ft.; depth of hold, 25.6 ft. The steamer is intended for the Skagway route during the summer, and to run, when necessary, on the Victoria-Seattle run. The engines and boilers are being constructed in Scotland.

### Among the Express Companies.

Winter rates to Alaska-Yukon points were put in force by the Alaska Pacific Ex. Co., Oct. 15.

The Dominion Ex. Co. has opened offices at Bankhead, Camrose, Alta.; Annis, B.C.; Woodland (formerly Reitz), Ont.

The Western Ex. Co. has opened offices at Bronson, Karlstad (formerly Clayton), Newfolden, Minn.; Lanona, Merricourt, Sawyer, N.D.

R. B. Thomas, for about eighteen years agent Canadian Ex. Co., Halifax, N.S., has decided to leave the service and enter the Methodist ministry.

The Dominion Ex. Co. announced Oct. 1, that rates quoted from Seattle, Wash., to Alaska-Yukon points would in future apply from Vancouver, B.C.

The Maritime Ex. Co. has issued a notification through its Secretary, R. L. Campbell, that its head office is located in the Dominion Atlantic Ry. station at Kentville, N.S.

The Canadian Ex. Co. is erecting a depot warehouse immediately west of the G.T.R. Stuart St. station, Hamilton, Ont. The building is being erected under the charge of — Mitchell, G.T.R. Master of Bridges and Buildings, Toronto.

The Western Ex. Co. is now bonded to the U. S. Government for the purpose of forwarding unapprised merchandise in bond from Emerson, Minn.; Portal, N.D., and Sault Ste. Marie, Mich., to inland ports of entry in the U.S.

During Sept. there were received in Toronto, 1,373 tons of fruit from the Niagara district, of which 745 tons came by train and 628 tons by steamer. There were shipped out from Toronto 1,135 tons to various

points. This traffic is handled by the express companies.

The Western Ex. Co. announces that Portal, N.D., the present terminus of the Minneapolis, St. Paul and Sault Ste. Marie Ry., is an exclusive office, and in the interchange of business, separate graduate and minimum charge will be required on all shipments for that point, except special traffic, which will be charged according to classification rules.

The Canadian Ex. Co. operates over the G.T.R., the Intercolonial Ry., Prince Edward Island Ry., and some smaller lines. Its territory is operated in three divisions, with headquarters at Toronto, St. John and Montreal, respectively. The Western Division headquarters are at Toronto, J. H. Sparling being Superintendent, with the following route agents: E. Allen, Toronto; G. W. Hickey, Hamilton, Ont.; B. S. Murray, London, Ont.; and J. P. Hetherman, Stratford, Ont. The Atlantic Division headquarters are at St. John, N.B., and includes the Intercolonial Ry. and all other lines operated over in the Maritime Provinces, H. C. Creighton being Superintendent, and has as route agents: Le B. Coleman, St. John, N.B.; H. N. Lingley, Truro, N.S. The Central and Eastern Divisions are operated from Montreal by R. Murphy, Assistant Superintendent, and his route agents are: H. M. Gain, Richmond, Que.; F. Norman, Montreal, and G. H. Waterhouse, Kingston, Ont.

### Telegraph and Cable Matters.

The G.N.W. Telegraph Co. has closed its offices at Beach Road, Delaware, Lambeth, London Junction, Minden, Ont., in addition to a number of offices at summer resorts.

The Commercial Cable Co. has completed arrangements to extend its Pacific cable system to China and Japan, and expects to have the new cable completed by April, 1906.

The G.N.W. Telegraph Co. has opened offices at Carpenter's, Winona, Pinkerton Station, Ont., and Kempt, Que., messages for the latter office, however, being subject to delay.


The Commercial Cable Co.'s new Atlantic cable from Canso, N.S., to Great Britain, was completed Oct. 6. The signalling speed is 15% greater than that of other Atlantic cables of the same length. The greatest depth of water in which the cable is laid is 15,000 ft.

The National Transcontinental Railway Commissioners have decided to utilize wireless telegraphy for the purpose of communication with the different survey camps. The proposal is to establish a station at New Liskeard, Ont., another at Lake Abitibi, and to arrange stations east and west from this point every 40 or 50 miles.

J. Kent, Manager C.P.R. Telegraphs, has just completed an inspection of the lines to the Pacific coast, and has made arrangements for extensions and improvements. He was accompanied part of the way from Montreal by J. F. Richardson, Superintendent of the Eastern Division lines, and west of Winnipeg by W. J. Camp, Electrical Engineer.

The Premier of Newfoundland arranged for the flotation in London, Eng., of an issue of £390,500 of 3½% Government of Newfoundland inscribed stock at £96% for the purpose of paying the amount of the award of arbitration for the government system of telegraphs taken over from the Reid-Newfoundland Co., and to provide for further extensions of the telegraph system on the island, and a cable connection with Canada. A press telegram dated Sept. 30, stated that the loan had been oversubscribed, but a London, Eng., paper of Oct.

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**HEAVY SHAY GEARED LOCOMOTIVE**



This is the Locomotive that works best under test. Judges at the Louisiana Purchase Exposition awarded it the **GOLD MEDAL** because it is the best in its class.

**THE LIMA LOCOMOTIVE & MACHINE CO.**  
 114 W. Second Street, - LIMA, OHIO, U.S.A.

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The Overland Limited**


Two new composite-observation cars have just been placed in service on The Overland Limited between Chicago and Omaha, by the

**Chicago, Milwaukee and St. Paul Railway**

The Overland Limited leaves Union Passenger Station, Chicago, 6.05 p. m. Arrives Omaha 7.35 a. m., and Denver 10.00 p. m. the next day, and San Francisco the third day in time for dinner.

**A. J. TAYLOR,**  
 Canadian Passenger Agent,  
 8 King St. E., Toronto, Ont.

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**WIRE ROPE**

BALLAST PLOUGH ROPES  
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 SEMAPHORE STRANDS  
 STANDARD AND LANG'S PATENT LAY, ETC.

**The B. GREENING WIRE CO., Limited**  
 HAMILTON, ONT. MONTREAL, QUE.

**If You**  
 HAVE OCCASION TO VISIT ANY PART OF MICHIGAN  
**You Will**  
 FIND THAT THE PERE MARQUETTE, FROM PORT HURON OR DETROIT, WILL  
**Reach the Spot.**  
 ALL LINES TICKET VIA PERE MARQUETTE TO MICHIGAN POINTS.

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CAPITAL - \$200,000

OFFICERS—J. W. HARRIS, President; H. A. RICHARDSON, Vice-President  
 JOSEPH DURAND, Secretary-Treasurer.

HEAD OFFICES—112 ST. JAMES ST., MONTREAL

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**DETROIT, TOLEDO**  
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**3—FAST DAILY TRAINS—3**

Through Coaches, Through Sleepers  
 Through Parlor Cars, Dining Cars

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USUAL RATES—Room and bath \$3 per day and up without meals. Room and bath \$30 per week and up with meals for two.

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 J. C. LAWRENCE - - - Proprietor

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JAMES PLAYFAIR, Pres. & Gen'l Mgr. D. L. WHITE, Vice-President. J. W. BENSON, Sec'y-Treas.

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 First-Class Tugs for Wrecking, Raft Towing, etc. Steam Pumps, Divers, Jacks, Hawsers and Lighters.

3 stated that the underwriters had been left with 30% of the issue on hand.

The annual meeting of the Great North-Western Telegraph Co. was held in Toronto, Sept. 27. Following are the officers and directors for the current year: President, H. P. Dwight, Toronto; Vice-President, A. Brown, Hamilton, Ont.; Vice-President and General Manager, I. McMichael, Toronto; other directors: H. N. Baird, J. Hedley, Hon. J. K. Kerr, W. C. Matthews, Toronto; Col. R. C. Clowry, J. Van Every, New York; Secretary-Treasurer, G. D. Perry, Toronto; Auditor, A. C. McConnell. The financial statement, which, however, is not published, presented by the president and directors, was considered very satisfactory, and a still further increase in business is looked for during the coming year, as the company has expended large sums of money in increasing their facilities, especially through the erection of new copper and large gauge wires.

**General Telephone Matters.**

The Bell Telephone Co. is replacing the iron wire lines between Stratford and Tavistock, Ont., with copper wire.

The Bell Telephone Co. is arranging for the establishment of a local and long distance telephone exchange in Rapid City, Man.

The Central Telephone Co. has arranged to extend its lines so as to give connection with Dalhousie, Campbellton and other points, N.B.

The Guelph, Ont., City Council passed a by-law ratifying a contract with the Bell Telephone Co. for a five years' exclusive franchise, Oct. 3.

The North Vancouver, B.C., Council has expressed its willingness to grant exemption from taxation and license fee for five years, for the immediate installation of a telephone system.

The Bell Telephone Co. has offered to construct a telephone connection between Kaleda and Manitou, if the local people will put in six miles of posts to connect with the line running from Darlingford, Man.

The Hamilton, Ont., Board of Trade's special committee reported Oct. 2, that while there were some complaints of poor telephone service in the city, the Bell Telephone Co. was improving the service as quickly as possible.

The Montreal City Council passed, Oct. 6, a by-law to compel the laying of all electrical wires in underground conduits. The city proposes to ask the Quebec Legislature, next session, for additional powers in respect to the ordering of the laying of wires underground.

The North American Telegraph Co. recently completed the installation of a new copper metallic telephone line from Madoc to Bancroft, Ont. In connection with the new line, offices have been opened at the following points: Eldorado, Bannockburn, Millbridge, Gilmour, St. Ola, Ormsby Junction, Coe Hill, Brinslow, Turriff, L'Amable and Bancroft.

The American Telephone Co. is making a survey with a view of constructing a direct telephone line between Watertown, N.Y., and Kingston, Ont. The telephone connection between the two points is at present by way of Ogdensburg, N.Y., but it is hoped to obtain a line through Cape Vincent, and across Wolfe Island, where connection could be made with the Bell Telephone Co.'s line.

Since the close of the Dominion Parliament a large amount of information regarding telephones and the conditions of service in various parts of the world, has been received at Ottawa for the use of the Telephone Com-

mittee, which had not completed its investigation at the adjournment. This information has been tabulated and arranged, and will be laid before the Committee when the sittings are resumed in the spring.

A writer in a London, Eng., paper says Sir Wm. Mulock's endorsement of the Glasgow telephone system is no more than that of any eminent layman who might walk through a telephone exchange without in the least understanding what he saw. One cannot but admire the humorous touch of Sir Wm. Mulock in rebuking the National Telephone Co. for successfully conducting a competition which the Glasgow corporation provoked with the avowed aim of driving the company out of existence in Glasgow.

The New Brunswick Telephone Co. has completed the erection of a two storey brick building on Alma St., Moncton, to be used as an exchange. On the first floor there will be a toll office, long distance booths, city switch boards, and a work shop in the rear. On the second floor will be the manager's office, power room, distributing board and relay rack. The switch board is a central energy one, and all the other equipment is new. It is expected that the new office will be completed early in Nov.

**PURCHASING AGENTS' GUIDE.**

*(Continued from third page of cover.)*

- Engineers, Consulting**  
H. W. Breithaupt.....Berlin, Ont.
- Engineers' Supplies**  
Canadian Fairbanks Co.....Montreal.  
The Canadian Rubber Co. of Montreal.  
Williams & Wilson.....Montreal.
- Engines, Automatic**  
Robb Engineering Co.....Amherst, N.S.
- Engines, Corliss**  
Robb Engineering Co.....Amherst, N.S.
- Engines, Gasoline**  
Goold, Shapley & Muir Co.....Brantford, Ont.  
Ontario Wind Engine and Pump Co.....Toronto.
- Engines, Hoisting**  
M. Beatty & Sons.....Welland, Ont.
- Engines, Stationary and Marine**  
Canada Foundry Co.....Toronto.  
H. W. Petrie.....Toronto.  
Polson Iron Works.....Toronto.  
Robb Engineering Co.....Amherst, N.S.
- Engines, Steam**  
Erie Heating Co.....Chicago, Ill.  
Williams & Wilson.....Montreal.
- Engraving**  
Rolph & Clark (Ltd.).....Toronto.
- Engraving (Copper and Steelplate)**  
Rolph & Clark (Ltd.).....Toronto.
- Express Office Signs**  
Acton Burrows Co.....Toronto.
- Feedwater Heaters**  
Canadian Fairbanks Co.....Montreal.  
H. W. Petrie.....Toronto.  
Robb Engineering Co.....Amherst, N.S.  
Williams & Wilson.....Montreal.
- Fencing**  
Canada Foundry Co.....Toronto.  
Canadian Steel and Wire Co.....Hamilton, Ont.  
McGregor, Banwell Fence Co.....Walkerville, Ont.  
Owen Sound Wire Fence Co.....Owen Sound, Ont.  
Page Wire Fence Co.....Walkerville, Ont.
- Fire Brick**  
W. H. C. Mussen & Co.....Montreal.
- Fire Escapes**  
The G. B. Meadows Wire, etc., Co.....Toronto.
- Fire Insurance**  
Dale & Co.....Montreal.
- Flags**  
The Hudson's Bay Co.....
- Flour**  
The Hudson's Bay Co.....
- Forgings**  
Canada Car Co.....Montreal.  
Crossen Car Mfg. Co.....Cobourg, Ont.  
General Railway Signal Co.....Buffalo, N.Y.  
Standard Steel Works.....Philadelphia, Pa.
- Gasoline Engines**  
Canadian Fairbanks Co.....Montreal.
- Gas Pipe (Cast Iron)**  
Gartshore-Thompson Pipe & F'dry Co., Hamilton.
- Gates**  
Canada Foundry Co.....Toronto.  
McGregor, Banwell Fence Co.....Walkerville, Ont.  
Owen Sound Wire Fence Co.....Owen Sound, Ont.  
Page Wire Fence Co.....Walkerville, Ont.
- Gears (Heavy)**  
W. Kennedy & Sons (Ltd.).....Owen Sound Ont.
- Generators**  
Charles F. Johnson.....Buffalo, N.Y.
- Grain Elevators**  
John S. Metcalfe Co.....Chicago, Ill.
- Groceries**  
The Hudson's Bay Company.....
- Handcars**  
Crossen Car Mfg. Co.....Cobourg, Ont.  
W. H. C. Mussen & Co.....Montreal.  
Toronto Pressed Steel Co.....Toronto.
- Hardware**  
The Hudson's Bay Company.....
- Headlights**  
N. L. Piper Railway Supply Co.....Toronto.
- Headlinings**  
Crossen Car Mfg. Co.....Cobourg, Ont.
- Heaters**  
Erie Heating Co.....Chicago, Ill.
- Heating for Power Plants**  
Erie Heating Co.....Chicago, Ill.
- Hoppers, Car, Wet or Dry**  
Duner Co.....Chicago, Ill.
- Hose, Air Brake and Steam**  
The Canadian Rubber Co. of Montreal.
- Hose, Fire**  
The Canadian Rubber Co. of Montreal.
- Hose, Suction**  
The Canadian Rubber Co. of Montreal.
- Hydrants**  
Kerr Engine Co.....Walkerville, Ont.
- Illustrations**  
Acton Burrows Co.....Toronto.
- Inspections**  
R. W. Hunt & Co.....Montreal.  
H. Jarvis & Co.....Chicago, Ill.
- Instruments, Surveying and Engineering**  
Eugene Dietzgen Co.....New York.  
James Foster.....Toronto.
- Insurance (Fire and Marine)**  
Dale & Co.....Montreal.
- Interlocking and Signalling**  
General Railway Signal Co.....Buffalo, N.Y.
- Interlocking Signals**  
Montreal Steel Works.....Montreal.
- Iron Fencing**  
The G. B. Meadows Wire, etc., Co.....Toronto.
- Iron and Steel Castings**  
American Brake Shoe & F'dry Co., Mahwah, N.J.
- Iron, Pig**  
John McDougall & Co.....Montreal.
- Iron Signs**  
Acton Burrows Co.....Toronto.
- Japans**  
McCaskill, Dougall & Co.....Montreal.
- Journal Bearings**  
Canada Foundry Co.....Toronto.  
Canadian Bronze Co.....Montreal.  
Crossen Car Mfg. Co.....Cobourg, Ont.  
Kerr Engine Co.....Walkerville, Ont.  
Jas. W. Pyke & Co.....Montreal.  
St. Thomas Brass Co.....St. Thomas, Ont.
- Journal Boxes**  
N. J. Holden & Co.....Montreal.
- Lager Beer, &c.**  
E. L. Drewry.....Winnipeg.
- Lamps, Incandescent**  
Canadian Westinghouse Co.....Hamilton, Ont.
- Lamps and Lanterns**  
The Hudson's Bay Company.....Toronto.  
N. L. Piper Railway Supply Co.....Toronto.
- Lathes**  
The John Bertram Sons Co.....Dundas, Ont.  
H. W. Petrie.....Toronto.  
Williams & Wilson.....Montreal.
- Launches**  
Polson Iron Works.....Toronto.
- Lights, Contractors' and Wrecking**  
F. H. Hopkins & Co.....Montreal.  
W. H. C. Mussen & Co.....Montreal.
- Lithographing**  
Rolph & Clark (Ltd.).....Toronto.
- Locomotive Boiler Washer, Automatic**  
Erie Heating Co.....Chicago, Ill.
- Locomotive Driver Brake Shoe**  
American Brake Shoe & F'dry Co., Mahwah, N.J.
- Locomotive Lagging and Covering**  
Canadian Fairbanks Co.....Montreal.

*(Continued on page 559.)*



<p><b>TEN STYLES</b></p>	<p><b>BAKER HOT WATER CAR HEATERS</b></p> <p>BAKER PIPE AND PIPE FITTINGS. Catalogues cheerfully furnished.</p> <p><b>William C. Baker, 143 LIBERTY STREET, New York, U.S.A.</b></p>	<p><b>STEAM ATTACH- MENTS</b></p>
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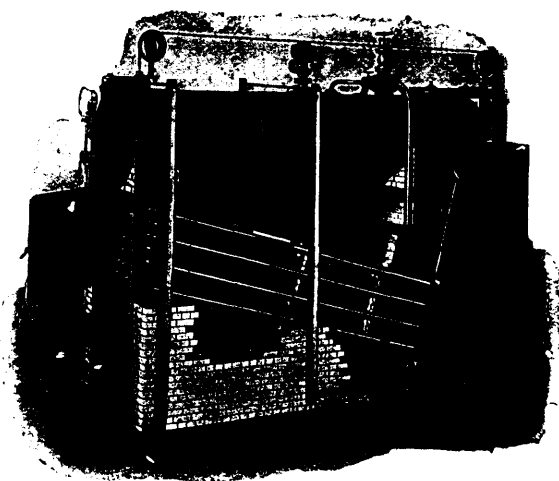
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## PURCHASING AGENTS' GUIDE.

(Continued from page 557.)

- Locomotives (Compressed Air)**  
Baldwin Locomotive Works.....Philadelphia, Pa.  
Canadian Locomotive Co.....Kingston, Ont.  
Locomotive and Machine Co. of Montreal.
- Locomotives (Electric)**  
Baldwin Locomotive Works.....Philadelphia, Pa.  
Canada Foundry Co.....Toronto.  
Locomotive and Machine Co. of Montreal.
- Locomotives (Logging)**  
Canadian Locomotive Co.....Kingston, Ont.  
Lima Locomotive and Machine Co.....Lima, Ohio.
- Locomotives (Rack)**  
Baldwin Locomotive Works.....Philadelphia, Pa.  
Canadian Locomotive Co.....Kingston, Ont.  
Locomotive and Machine Co. of Montreal.
- Locomotives (Steam)**  
Baldwin Locomotive Works.....Philadelphia, Pa.  
Canada Foundry Co.....Toronto.  
Canadian Locomotive Co.....Kingston, Ont.  
F. H. Hopkins & Co.....Montreal.  
Charles F. Johnson.....Buffalo, N.Y.  
The W. H. Kelson Co.....Montreal.  
Lima Locomotive and Machine Co.....Lima, Ohio.  
Locomotive and Machine Co. of Montreal.
- Locomotive Stack Netting**  
The G. B. Meadows Wire, etc., Co.....Toronto.
- Machine Tools**  
W. Abbott.....Montreal.  
Canadian Fairbanks Co.....Montreal.  
H. W. Petrie.....Toronto.  
Williams & Wilson.....Montreal.
- Machine Screws, Set Cap and Planer**  
John Morrow Machine Screw Co.....Ingersoll.
- Machinery, Marine**  
Sheriffs Mfg. Co.....Milwaukee, Wis.
- Machinery Repairs, Marine**  
Sheriffs Mfg. Co.....Milwaukee, Wis.
- Manganese Steel Castings**  
Montreal Steel Works.....Montreal.
- Manhole Frames and Covers**  
American Brake Shoe & F'dry Co.....Mahwah, N.J.
- Maps**  
Rolph & Clark (Ltd.).....Toronto.
- Marine Insurance**  
Dale & Co.....Montreal.
- Mats and Matting**  
The Canadian Rubber Co. of Montreal.
- Millpost Numbers**  
Acton Burrows Co.....Toronto.
- Milling Cutters**  
W. Abbott.....Montreal.  
Williams & Wilson.....Montreal.
- Milling Machines**  
The John Bertram Sons Co.....Dundas, Ont.  
H. W. Petrie.....Toronto.
- Mills, Boring and Turning**  
The John Bertram Sons Co.....Dundas, Ont.  
H. W. Petrie.....Toronto.
- Mill Tools and Supplies**  
J. A. Dawson & Co.....Montreal.
- Motors**  
Charles F. Johnson.....Buffalo, N.Y.
- Nickel**  
The Orford Copper Co.....New York.
- Nickel for Nickel Steel**  
The Orford Copper Co.....New York.
- Numbers**  
Acton Burrows Co.....Toronto.
- Nuts, Cold Pressed**  
John Morrow Machine Screw Co.....Ingersoll.
- Nuts, Square and Hexagon**  
Canada Foundry Co.....Toronto.  
Montreal Rolling Mills Co.....Montreal.  
Toronto Bolt and Forging Co.....Toronto.
- Oakum**  
The Hudson's Bay Company.....
- Office Desks**  
Canadian Office & School Furniture Co., Preston, Ont.
- Office Fittings**  
Canadian Office & School Furniture Co., Preston, Ont.
- Office Railings**  
The G. B. Meadows Wire, etc., Co.....Toronto.
- Office Signs**  
Acton Burrows Co.....Toronto.
- Oils**  
Galena Signal Oil Co., Franklin, Pa., and Toronto.
- Packing**  
The N. L. Piper Railway Supply Co.....Toronto.  
Williams & Wilson.....Montreal.
- Packing, High Pressure Sheet**  
The Canadian Rubber Co. of Montreal.
- Packing, Piston**  
The Canadian Rubber Co. of Montreal.
- Paints, Acid Proof and Anti-rust**  
American Asphaltum & Rubber Co...Chicago, Ill.
- Paints, Asphaltum**  
American Asphaltum & Rubber Co...Chicago, Ill.
- Paints, Bridge**  
American Asphaltum & Rubber Co...Chicago, Ill.
- Paints, Locomotive Front end**  
American Asphaltum & Rubber Co...Chicago, Ill.
- Paints, Mineral Rubber**  
American Asphaltum & Rubber Co...Chicago, Ill.
- Paints, Structural Iron**  
American Asphaltum & Rubber Co...Chicago, Ill.
- Pinch Bars**  
The N. L. Piper Railway Supply Co.....Toronto.
- Pipe**  
Erie Heating Co.....Chicago, Ill.
- Pipe and Pipe Coverings**  
W. C. Baker.....New York.
- Pipe Covering**  
Canadian Fairbanks Co.....Montreal.  
Mica Boiler Covering Co.....Montreal.
- Planers**  
The John Bertram Sons Co.....Dundas, Ont.  
H. W. Petrie.....Toronto.
- Ploughs, Contractors'**  
W. H. C. Mussen & Co.....Montreal.  
Toronto Pressed Steel Co.....Toronto.
- Pneumatic Tools**  
N. J. Holden & Co.....Montreal.
- Porter**  
E. L. Drewry.....Winnipeg.
- Portable Boilers**  
Babcock & Wilcox (Ltd.).....Montreal.  
Canada Foundry Co.....Toronto.  
Robb Engineering Co.....Amherst, N.S.
- Portland Cement**  
Thorn Cement Co.....Buffalo, N.Y.
- Power Plants, Contractors'**  
Erie Heating Co.....Chicago, Ill.
- Printing**  
The Hunter, Rose Co.....Toronto.  
The Mail Job Printing Company.....Toronto.
- Propeller Wheels**  
W. Kennedy & Sons (Ltd.).....Owen Sound, Ont.  
Sheriffs Manufacturing Co.....Milwaukee, Wis.
- Pumps**  
Canadian Fairbanks Co.....Montreal.  
Canada Foundry Co.....Toronto.  
Erie Heating Co.....Chicago, Ill.  
Goold, Shapley & Muir Co.....Brantford, Ont.
- Pumps (Centrifugal)**  
M. Beatty & Sons.....Welland, Ont.
- Punches**  
F. J. Myers Mfg. Co.....Hamilton, Ohio.
- Punching and Shearing Machines**  
The John Bertram Sons Co.....Dundas, Ont.
- Rail Benders, Roller**  
Montreal Steel Works.....Montreal.
- Rails (new)**  
Drummond, McCall & Co.....Montreal.  
F. H. Hopkins & Co.....Montreal.  
J. J. Gartshore.....Toronto.
- Rails (for relaying)**  
F. H. Hopkins & Co.....Montreal.  
J. J. Gartshore.....Toronto.  
Charles F. Johnson.....Buffalo, N.Y.  
T. A. Morrison & Co.....Montreal.  
W. H. C. Mussen & Co.....Montreal.  
Jas. W. Pyke & Co.....Montreal.
- Railway Interlocking**  
General Railway Signal Co.....Buffalo, N.Y.
- Rail Joints**  
N. J. Holden & Co.....Montreal.
- Railway Pile Drivers**  
W. H. C. Mussen & Co.....Montreal.
- Railway Signalling**  
General Railway Signal Co.....Buffalo, N.Y.
- Railway Supplies**  
J. A. Dawson & Co.....Montreal.  
Canadian Fairbanks Co.....Montreal.  
The W. H. Kelson Co.....Montreal.  
The N. L. Piper Railway Supply Co.....Toronto.
- Reamers**  
W. Abbott.....Montreal.
- Refrigerators**  
Geo. R. Prowse.....Montreal.
- Rivets, Boiler, Bridge and Structural**  
Canada Foundry Co.....Toronto.  
Montreal Rolling Mills Co.....Montreal.  
Toronto Bolt and Forging Co.....Toronto.
- Rolled Wheels**  
Standard Steel Works.....Philadelphia, Pa.
- Rolls, Plate Bending**  
The John Bertram Sons Co.....Dundas, Ont.
- Roof Trusses**  
Canada Foundry Co.....Toronto.  
Canadian Bridge Co.....Walkerville, Ont.  
Dominion Bridge Co.....Montreal.
- Roofing Pitch**  
American Asphaltum & Rubber Co...Chicago, Ill.
- Roofing, Ready**  
American Asphaltum & Rubber Co...Chicago, Ill.
- Roofs, Car**  
American Asphaltum & Rubber Co...Chicago, Ill.
- Rope**  
The Hudson's Bay Co.....
- Rotary Snow Ploughs**  
Crossen Car Mfg. Co.....Cobourg, Ont.
- Rubber Tiling, Interlocking**  
The Canadian Rubber Co. of Montreal.
- Saw Steel**  
Montreal Steel Works.....Montreal.
- Scrapers (Wheel and Drag)**  
W. H. C. Mussen & Co.....Montreal.  
Toronto Pressed Steel Co.....Toronto.
- Screws, Coach and Lag**  
Montreal Rolling Mills Co.....Montreal.  
Toronto Bolt and Forging Co.....Toronto.
- Semaphore Arms**  
Acton Burrows Co.....Toronto.
- Semaphores**  
The N. L. Piper Railway Supply Co.....Toronto.
- Sewer Pipe (Cast Iron)**  
Gartshore-Thompson Pipe & F'dry Co. Hamilton.
- Shaking Grates**  
Babcock & Wilcox (Ltd.).....Montreal.
- Shaping Machines**  
The John Bertram Sons Co.....Dundas, Ont.
- Ship Lamps**  
The N. L. Piper Railway Supply Co.....Toronto.
- Ships**  
Polson Iron Works.....Toronto.
- Shovels**  
F. H. Hopkins & Co.....Montreal.  
The Hudson's Bay Co.....
- Side Bearings**  
Simplex Railway Appliance Co.....Montreal.
- Signal House Numbers**  
Acton Burrows Co.....Toronto.
- Signals**  
General Railway Signal Co.....Buffalo, N.Y.  
N. L. Piper Railway Supply Co.....Toronto.
- Signs**  
Acton Burrows Co.....Toronto.
- Slack Adjusters**  
Chicago Railway Equipment Co.....Chicago, Ill.
- Slotting Machines**  
The John Bertram Sons Co.....Dundas, Ont.
- Smoke Jacks**  
Paul Dickinson.....Chicago, Ill.
- Snow Ploughs**  
Crossen Mfg. Co.....Cobourg, Ont.  
Charles F. Johnson.....Buffalo, N.Y.  
Rhodes, Curry & Co.....Amherst, N.S.
- Specialties in Brass and Iron Wire**  
The G. B. Meadows Wire, etc., Co.....Toronto.
- Speedicut High Speed Steel**  
Montreal Steel Works.....Montreal.
- Spikes, Railway, Ship or Pressed**  
Montreal Rolling Mills Co.....Montreal.  
Toronto Bolt and Forging Co.....Toronto.
- Springs**  
Montreal Steel Works.....Montreal.  
Standard Steel Works.....Philadelphia, Pa.
- Station and Tower Heaters**  
W. C. Baker.....New York.
- Stationery**  
Rolph & Clark (Ltd.).....Toronto.
- Station Name Signs**  
Acton Burrows Co.....Toronto.
- Steam Attachments for Car Heating**  
W. C. Baker.....New York.
- Steam Couplers**  
Safety Car Heating and Lighting Co....New York.
- Steam Hammers**  
The John Bertram Sons Co.....Dundas, Ont.
- Steam Shovels**  
M. Beatty & Sons.....Welland, Ont.  
F. H. Hopkins & Co.....Montreal.  
Charles F. Johnson.....Buffalo, N.Y.  
W. H. C. Mussen & Co.....Montreal.

<b>Steamship Supplies</b> The W. H. Kelson Co. .... Montreal.	<b>Time Table Racks</b> The G. B. Meadows Wire, etc., Co. .... Toronto.	<b>Washers</b> Montreal Rolling Mills Co. .... Montreal.
<b>Steamships</b> Polson Iron Works. .... Toronto.	<b>Tires</b> Standard Steel Works. .... Philadelphia, Pa.	<b>Waste</b> N. L. Piper Railway Supply Co. .... Toronto.
<b>Steamship Signs</b> Acton Burrows Co. .... Toronto	<b>Tool Steel</b> W. Jessop & Sons. .... Sheffield, Eng. Montreal Steel Works. .... Montreal.	<b>Water Filters</b> Geo. R. Prowse. .... Montreal.
<b>Steam Steering Engines for Tugs</b> Sheriffs Mfg. Co. .... Milwaukee, Wis.	<b>Towers</b> Goold, Shapley & Muir Co. .... Brantford, Ont.	<b>Water Pipe (Cast Iron)</b> Gartshore-Thompson Pipe & F'dry Co. Hamilton.
<b>Steel</b> W. Abbott. .... Montreal. F. H. Hopkins & Co. .... Montreal. Wm. Jessop & Sons. .... Sheffield, Eng. Williams & Wilson. .... Montreal.	<b>Track Jacks</b> Canadian Fairbanks Co. .... Montreal. F. H. Hopkins & Co. .... Montreal. Montreal Steel Works. .... Montreal. W. H. C. Mussen & Co. .... Montreal. A. O. Norton. .... Coaticook, Que.	<b>Water Softeners</b> Babcock & Wilcox (Ltd.) .... Montreal.
<b>Steel Buildings</b> Canada Foundry Co. .... Toronto. Canadian Bridge Co. .... Walkerville, Ont. Dominion Bridge Co. .... Montreal.	<b>Tracklaying Lorries</b> Crossen Car Mfg. Co. .... Cobourg, Ont.	<b>Wheelbarrows</b> F. H. Hopkins & Co. .... Montreal. Toronto Pressed Steel Co. .... Toronto.
<b>Steel for Springs</b> James Hutton & Co. .... Montreal.	<b>Tracklaying Machinery</b> D. F. Holman Ry. Tracklayer Co. .... Chicago, Ill.	<b>Wheels, Car</b> John McDougall & Co. .... Montreal. Jas. W. Pyke & Co. .... Montreal. Rhodes, Curry & Co. .... Amherst, N.S. Standard Steel Works. .... Philadelphia, Pa.
<b>Steel Plate</b> Jas. W. Pyke & Co. .... Montreal.	<b>Track Tools</b> N. J. Holden & Co. .... Montreal. F. H. Hopkins & Co. .... Montreal. Montreal Steel Works. .... Montreal. W. H. C. Mussen & Co. .... Montreal.	<b>Wheels, Locomotive</b> John McDougall & Co. .... Montreal.
<b>Steel, Nickel for Nickel</b> The Orford Copper Co. .... New York.	<b>Tramway Equipment</b> J. J. Gartshore. .... Toronto.	<b>Wheels, rolled, solid forged</b> Standard Steel Works. .... Philadelphia, Pa.
<b>Steel Rolling Doors</b> W. H. C. Mussen & Co. .... Montreal.	<b>Trucks (Electric Car)</b> Baldwin Locomotive Works. .... Philadelphia, Pa. Canada Foundry Co. .... Toronto. Charles F. Johnson. .... Buffalo, N.Y. Montreal Steel Works. .... Montreal.	<b>Wheels, steel tired</b> Standard Steel Works. .... Philadelphia, Pa.
<b>Steel Tyres</b> James Hutton & Co. .... Montreal. Jas. W. Pyke & Co. .... Montreal.	<b>Trucks (Railroad and Warehouse)</b> Canadian Fairbanks Co. .... Montreal. Toronto Pressed Steel Co. .... Toronto.	<b>Windmills</b> Canadian Fairbanks Co. .... Montreal. Ontario Wind Engine and Pump Co. .... Toronto.
<b>Stokers, Mechanical</b> Babcock & Wilcox (Ltd.) .... Montreal.	<b>Turbine Waterwheels</b> W. Kennedy & Sons (Ltd.) .... Owen Sound, Ont.	<b>Wire and Wire Rope</b> Dominion Wire Rope Co. .... Montreal. The B. Greening Co. .... Hamilton, Ont. W. H. C. Mussen & Co. .... Montreal. The Wire and Cable Co. .... Montreal.
<b>Structural Metal Work</b> Canada Foundry Co. .... Toronto. Canadian Bridge Co. .... Walkerville, Ont. Dominion Bridge Co. .... Montreal. Locomotive and Machine Co. of Montreal. Jas. W. Pyke & Co. .... Montreal.	<b>Turnbuckles</b> Montreal Steel Works. .... Montreal.	<b>Wire Cloth</b> The B. Greening Co. .... Hamilton, Ont. F. J. Myers Mfg. Co. .... Hamilton, Ohio.
<b>Superheaters</b> Babcock & Wilcox (Ltd.) .... Montreal.	<b>Turntables</b> Canada Foundry Co. .... Toronto. Canadian Bridge Co. .... Walkerville, Ont. Dominion Bridge Co. .... Montreal. Charles F. Johnson. .... Buffalo, N.Y.	<b>Wire, Copper</b> E. F. Phillips Electrical Works, Ltd. .... Montreal. The Wire and Cable Co. .... Montreal.
<b>Switches</b> Montreal Steel Works. .... Montreal.	<b>Underwriters</b> Dale & Co. .... Montreal.	<b>Wire, Electric</b> Canadian General Electric Co. .... Toronto. E. F. Phillips Electrical Works, Ltd. .... Montreal. The Wire and Cable Co. .... Montreal.
<b>Switch Lamps</b> The N. L. Piper Railway Supply Co. .... Toronto.	<b>Valves, Brass Gate</b> Kerr Engine Co. .... Walkerville, Ont.	<b>Wire, Insulated Copper</b> Canadian General Electric Co. .... Toronto. E. F. Phillips Electrical Works, Ltd. .... Montreal. The Wire and Cable Co. .... Montreal.
<b>Switch Ropes</b> The B. Greening Co. .... Hamilton, Ont.	<b>Valves, Brass Globe</b> Kerr Engine Co. .... Walkerville Ont.	<b>Wire Lockers (Employees)</b> The G. B. Meadows Wire, etc., Co. .... Toronto.
<b>Switch Targets</b> Acton Burrows Co. .... Toronto.	<b>Valves, Iron and Brass</b> Canada Foundry Co. .... Toronto. Canadian Fairbanks Co. .... Montreal.	<b>Wire, Telegraph and Telephone</b> E. F. Phillips Electrical Works, Ltd. .... Montreal. The Wire and Cable Co. .... Montreal.
<b>Tanks and Tank Fixtures</b> Canadian Fairbanks Co. .... Montreal. Canada Foundry Co. .... Toronto. Goold, Shapley & Muir Co. .... Brantford, Ont. Ontario Wind Engine and Pump Co. .... Toronto.	<b>Valves, Iron Gate</b> Kerr Engine Co. .... Walkerville, Ont.	<b>Wire, Transmission and Trolley</b> The Wire and Cable Co. .... Montreal.
<b>Telegraph and Telephone Office Signs</b> Acton Burrows Co. .... Toronto.	<b>Valves, Rubber</b> The Canadian Rubber Co. of Montreal.	<b>Woodworking Machinery</b> H. W. Petrie. .... Toronto.
<b>Tests</b> R. W. Hunt & Co. .... Montreal. H. Jarvis & Co. .... Chicago, Ill.	<b>Varnishes</b> McCaskill, Dougall & Co. .... Montreal.	<b>Wrecking Cranes</b> W. H. C. Mussen & Co. .... Toronto.
<b>Ticket Punches</b> F. J. Myers Mfg. Co. .... Hamilton, Ohio.	<b>Ventilators</b> Paul Dickinson. .... Chicago, Ill.	<b>Wrought Steel Piping</b> Canada Foundry Co. .... Toronto.
<b>Ticket Wickets</b> The G. B. Meadows Wire, etc., Co. .... Toronto.	<b>Vessels</b> Polson Iron Works. .... Toronto.	<b>Yachts</b> Polson Iron Works. .... Toronto.
<b>Tie Plates</b> Montreal Rolling Mills Co. .... Montreal.		



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# The Purchasing Agents' Guide

To the Manufacturers of & Dealers in Steam & Electric Railway, Steamship, Express, Telegraph & Telephone Supplies, &c.

## Accident Insurance

Accident & Guarantee Co. of Canada, Montreal.  
Canadian Ry. Accident Ins. Co., Ottawa, Ont.

## Aerated Waters

E. L. Drewry, Winnipeg.

## Air Brakes and Fittings

Canada Foundry Co., Toronto.  
Canadian Westinghouse Co., Hamilton, Ont.

## Air Compressors

N. J. Holden & Co., Montreal.

## Ales

E. L. Drewry, Winnipeg.

## Angle Bars

Montreal Rolling Mills Co., Montreal.

## Asphalt, Pure

American Asphaltum & Rubber Co., Chicago.

## Axe Steel

Montreal Steel Works, Montreal.

## Axles

James Hutton & Co., Montreal.  
Jas. W. Pyke & Co., Montreal.  
Rhodes, Curry & Co., Amherst, N.S.

## Babbitt

Williams & Wilson, Montreal.

## Bearings, Slide

Chicago Railway Equipment Co., Chicago, Ill.

## Belting, Rubber

The Canadian Rubber Co. of Montreal.

## Blankets and Bedding

The Hudson's Bay Co., Montreal.

## Block Signals

General Railway Signal Co., Buffalo, N.Y.

## Boiler Compound

N. J. Holden & Co., Montreal.

## Boiler Covering

Mica Boiler Covering Co., Montreal.

## Boilers

Babcock & Wilcox (Ltd.), Montreal.  
Canada Foundry Co., Toronto.  
Hall Engineering Works, Montreal.  
Polson Iron Works, Toronto.  
Robb Engineering Co., Amherst, N.S.  
Williams & Wilson, Montreal.

## Boilers, Internally Fired

Robb Engineering Co., Amherst, N.S.

## Boilers, Portable

Canada Foundry Co., Toronto.  
H. W. Petrie, Toronto.  
Robb Engineering Co., Amherst, N.S.

## Boilers, Stationary and Marine

Babcock & Wilcox (Ltd.), Montreal.  
Canada Foundry Co., Toronto.  
H. W. Petrie, Toronto.  
Robb Engineering Co., Amherst, N.S.

## Boilers, Steam

Babcock & Wilcox (Ltd.), Montreal.  
Erie Heating Co., Chicago, Ill.  
H. W. Petrie, Toronto.

## Boilers, Water Tube

Babcock & Wilcox (Ltd.), Montreal.  
Erie Heating Co., Chicago, Ill.

## Boiler Tubes

Jas. W. Pyke & Co., Montreal.

## Bolsters

Simplex Railway Appliance Co., Montreal.

## Bolts, Bridge

Canada Foundry Co., Toronto.  
Montreal Rolling Mills Co., Montreal.  
Toronto Bolt and Forging Co., Toronto.

## Bolts, Carriage and Machine

Toronto Bolt and Forging Co., Toronto.

## Bolts, Track

Canada Foundry Co., Toronto.  
Montreal Rolling Mills Co., Montreal.  
Toronto Bolt and Forging Co., Toronto.

## Box Car Loaders

W. H. C. Mussen & Co., Montreal.

## Brake Beams

Chicago Railway Equipment Co., Chicago, Ill.  
Simplex Railway Appliance Co., Montreal.

## Brake Shoes

American Brake Shoe & F'dry Co., Mahwah, N.J.  
N. J. Holden & Co., Montreal.

## Brass and Copper Cloth

The B. Greening Co., Hamilton, Ont.

## Bridge Numbers

Acton Burrows Co., Toronto.

## Bridges

Canada Foundry Co., Toronto.  
Canadian Bridge Co., Walkerville, Ont.  
Dominion Bridge Co., Montreal.  
Charles F. Johnson, Buffalo, N.Y.

## Buoy Lighting

Safety Car Heating and Lighting Co., New York.

## Cables, Electric and Feeder

E. F. Phillips Electrical Works, Ltd., Montreal.  
The Wire and Cable Co., Montreal.

## Caboose Heaters

Geo. R. Prowse, Montreal.

## Calendars

Rolph & Clark (Ltd.), Toronto.

## Car Castings

American Brake Shoe & F'dry Co., Mahwah, N.J.

## Car Closets

Dunbar Co., Chicago, Ill.

## Car Fenders

F. J. Myers Mfg. Co., Hamilton, Ohio.

## Car Heating

W. C. Baker, New York.  
Safety Car Heating and Lighting Co., New York.

## Car Jacks

F. H. Hopkins & Co., Montreal.  
W. H. C. Mussen & Co., Montreal.

## Car Kitchen Equipments

Geo. R. Prowse, Montreal.

## Car Lighting

Safety Car Heating and Lighting Co., New York.

## Car Movers

N. J. Holden & Co., Montreal.  
W. H. C. Mussen & Co., Montreal.

## Car Replacers

N. J. Holden & Co., Montreal.

## Cars

Canada Car Co., Montreal.  
Crossen Car Mfg. Co., Cobourg, Ont.  
Charles F. Johnson, Buffalo, N.Y.  
Rhodes, Curry & Co., Amherst, N.S.

## Car Ranges

Geo. R. Prowse, Montreal.

## Car Upholstery

N. J. Holden & Co., Montreal.

## Car Wheels

Canada Car Co., Montreal.

## Castings

Crossen Car Mfg. Co., Cobourg, Ont.

## Conveyors, Coal and Ash

Babcock & Wilcox (Ltd.), Montreal.

## Castings, Brass

Canadian Bronze Co., Montreal.  
Kerr Engine Co., Walkerville, Ont.  
St. Thomas Brass Co., St. Thomas, Ont.

## Castings, Iron

Kerr Engine Co., Walkerville, Ont.

## Castings, Steel

Canada Car Co., Montreal.  
W. Kennedy & Sons, Ltd., Owen Sound, Ont.  
Montreal Steel Works, Montreal.  
Rhodes, Curry & Co., Amherst, N.S.

## Cast-Steel Hammers

American Brake Shoe & F'dry Co., Mahwah, N.J.

## Cast-Steel Track Tools

American Brake Shoe & F'dry Co., Mahwah, N.J.

## Cast-Steel Wrenches

American Brake Shoe & F'dry Co., Mahwah, N.J.

## Cement

Thorn Cement Co., Buffalo, N.Y.

## Cement Machinery

Jas. W. Pyke & Co., Montreal.

## Coal Haulage Ropes

The B. Greening Co., Hamilton, Ont.

## Concrete

Thorn Cement Co., Buffalo, N.Y.

## Concrete Mixers and Rock Crushers

Goold, Shapley & Muir Co., Brantford, Ont.  
F. H. Hopkins & Co., Montreal.  
W. H. C. Mussen & Co., Montreal.  
Toronto Pressed Steel Co., Toronto.

## Conduit Contractors

F. T. Ley & Co., Springfield, Mass.

## Contractors

F. T. Ley & Co., Springfield, Mass.

## Contractors' Plant

M. Beatty & Sons, Welland, Ont.  
F. H. Hopkins & Co., Montreal.  
The W. H. Kelson Co., Montreal.  
T. A. Morrison & Co., Montreal.  
W. H. C. Mussen & Co., Montreal.  
Toronto Pressed Steel Co., Toronto.

## Contractors' Supplies

J. A. Dawson & Co., Montreal.  
Toronto Pressed Steel Co., Toronto.

## Cooking Apparatus

Geo. R. Prowse, Montreal.

## Copperware

Geo. R. Prowse, Montreal.

## Corrugated Furnaces

Continental Iron Works, Brooklyn, N.Y.

## Cranes

Charles F. Johnson, Buffalo, N.Y.

## Cross Arms, Top Pins and Side Blocks

Canadian General Electric Co., Toronto.  
The Firstbrook Box Co., Toronto.

## Cross Arm Braces

Canadian General Electric Co., Toronto.  
Montreal Rolling Mills Co., Montreal.  
Toronto Bolt and Forging Co., Toronto.

## Crossing Gates

General Railway Signal Co., Buffalo, N.Y.  
The N. L. Piper Railway Supply Co., Toronto.

## Crowbars

Toronto Bolt and Forging Co., Toronto.

## Culvert Pipe (Cast Iron)

Gartshore-Thompson Pipe & F'dry Co., Hamilton.

## Cuts

Acton Burrows Co., Toronto.

## Derrick Ropes

Dominion Wire Rope Co., Montreal.  
The B. Greening Co., Hamilton, Ont.

## Derricks

M. Beatty & Sons, Welland, Ont.  
F. H. Hopkins & Co., Montreal.  
W. H. C. Mussen & Co., Montreal.

## Diaphragms

N. J. Holden & Co., Montreal.

## Diving Outfits

John Date, Montreal.  
W. H. C. Mussen & Co., Montreal.

## Door Signs

Acton Burrows Co., Toronto.

## Drawing Materials

Eugene Dietzgen Co., New York.  
James Foster, Toronto.

## Dredges

M. Beatty & Sons, Welland, Ont.

## Drilling Machines

The John Bertram & Sons Co., Dundas, Ont.

## Drills

W. Abbott, Montreal.

## Dry Goods

The Hudson's Bay Co., Montreal.

## Dump Cars (Contractors')

Charles F. Johnson, Buffalo, N.Y.  
Toronto Pressed Steel Co., Toronto.

## Dynamo and Electric Castings

American Brake Shoe & F'dry Co., Mahwah, N.J.

## Economizers

Babcock & Wilcox (Ltd.), Montreal.

## Electric Car Fenders

The G. B. Meadows Wire, etc., Co., Toronto.

## Electric Car Route Signs

Acton Burrows Co., Toronto.

## Electric Car Wire Guards

The G. B. Meadows Wire, etc., Co., Toronto.

## Electric Cranes

Canada Foundry Co., Toronto.  
Dominion Bridge Co., Montreal.  
W. H. C. Mussen & Co., Montreal.

## Electric Ry. Brake Shoes

American Brake Shoe & F'dry Co., Mahwah, N.J.

## Electric Railway Builders

F. T. Ley & Co., Springfield, Mass.

## Electric Ry. Supplies

J. A. Dawson & Co., Montreal.

## Electric Supplies

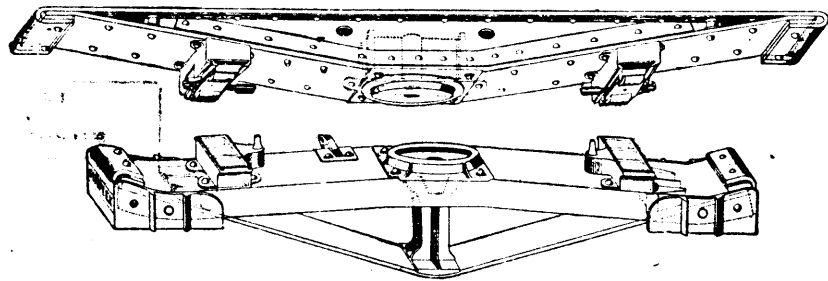
J. A. Dawson & Co., Montreal.

## Enameled Iron Signs

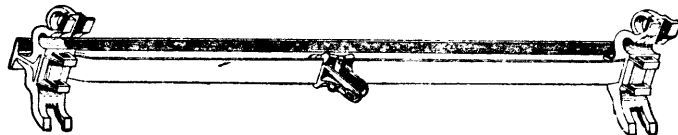
Acton Burrows Co., Toronto.

(Continued on page 557.)

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## BRAKE BEAMS



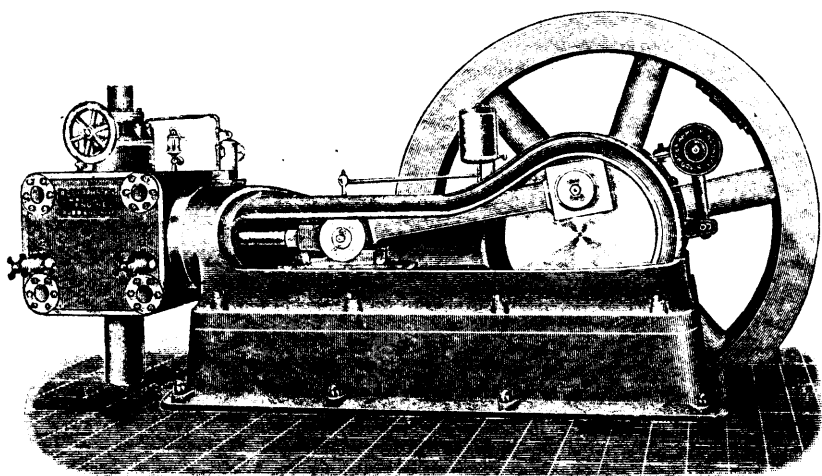
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“I will say without qualification that it is as fine a boiler and engine plant as I have ever had the pleasure of seeing for its size. The engine was working without heating and absolutely without any noise. I wish to congratulate you on your success in building this class of engine and hope that we may have pleasure in dealing with you again.”

The above refers to a 350 horse power Robb-Armstrong Corliss engine and two 175 horse power Robb-Mumford boilers installed by us.

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J. F. Porter, 355 Carlton Street, WINNIPEG