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Old Series, No. 232. New Series, No 150.

TORONTO, CANADA, AUGUST, 1910.

For Subscription Rates, See page 655.

Improvements in Locomotive Boilers.

By H. H. Vaughan, Assistant to the Vice President Canadian Pacific Ry.

A. Boilers with smoke tubes; precautions in constructing and maintaining tubes and tube plates.

THE TYPE OF BOILER generally used in THE TYPE OF BOILER generally used in Canada is that with a round top fire-box of what is termed the extended wagon top style, in which the diameter of the circular portion of the fire box and the rear portion of the barrel is larger than that of the front portion of the boiler. Usually the course of the boiler next the fire-box and the

the boiler next the fire-box and the front course of the boiler are both cylindrical in form, joined together by a middle taper course. The dome is usually placed on the

course next the fire box.

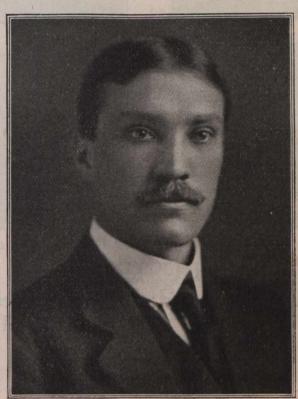
Representative examples of this Representative examples of this type of boiler are illustrated in fig. 1, showing a boiler used on the Lake Shore and Michigan Southern Ry., and fig. 2, showing a boiler used on the Union Pacific Rd. They may be regarded as good examples of recent boiler designs in Canada and the U.S. A few of the largest administrations, such as the Pennsylvania Lines including allied roads, and the Great Northern, are using the Belpaire firebox, while others, such as the Illinois Central and Canadian Pacific Railways, have used the Belpaire more or less extensively, but in each case the latest engines have been equipped with round top boilers. have been top boilers.

Examples of recent design in Belpaire boilers are shown in fig. 3, illustrating a boiler used on the Pennsylvania Rd., and fig. 4 showing one used on the C.P.R. These drawings also show a boiler barrel of the tapered form illustrated in the two examples of round top fire-box boilers. This form of barrel is not, however, in universal use, as several roads are using barrels of the parallel or straight top type,

of the parallel or straight top type, the courses usually being rolled cylindrically, and varying in diameter by the thickness of the plates alone. The type of barrel used is largely determined by the conditions governing the permissible weight of the below that with the same limitations are boiler, but, with the same limitations as to the water space around the sides of the fire-box, the number of flues that may be placed in a boiler is limited by the diameter of the boiler at the fire-box end, and it is possible for the dia-meter of the boiler at the front end to be somewhat smaller without affecting this number. A lighter boiler with the same amount of heating surface can thus be obtained than is possible where a par-

allel form of barrel is used.
On roads on which the weight of the engine is limited by the weight per

the additional weight entailed at the front end of the engine by the use of a straight or parallel barrel, makes of a straight or parallel barrel, makes but little difference, but, where the weight of the engine is limited by the strength of the bridges over which it has to run, which is usually the case, the tapered boiler barrel has enabled the weight of a boiler with a given heating surface to be somewhat reduced, and it is consequently in general use. This question has also been affected by the tendency to increase the distance between the flues, and the amount of water space between the inner and outwater space between the inner and out-



Guy Tombs

General Freight and Passenger Agent Canadian Northern Quebec Ry., and Quebec and Lake St. John Ry.

er fire box sheets at the sides. ter, especially, has been an important factor in the more extended use of the tapered barrel, as with a small water space the saving in weight obtained by reducing the diameter of the barrel at the front end would not be as great as is the case with the wider spacing in recent use.

The extensive use of the round top fire-box is explained by the results obtained from it being on the whole, satisfactory. The Belpaire form of box has no doubt an advantage in the fact that the stresses in the various plates and The Belpaire form of box has stays can be accurately determined by calculation, whereas in the round top

boiler, especially one of the radial stayed type, these stresses cannot be determined with the same degree of accuracy. The service, however, of many thousands of round top boilers has fully demands of round top boilers has fully demonstrated the safety of this type when properly constructed and maintained, and has proved the correctness of the calculations by which their strength is determined. The Belpaire fire-box is somewhat more expensive to construct than the round top, and adds a certain amount to the weight of the boiler without a corresponding increase in the

amount to the weight of the boiler without a corresponding increase in the heating surface; hence the largely preponderating use of the simpler round top type. Although the round top type has proven entirely safe and somewhat cheaper to construct than the Belpaire, it is open to question whether its extensive adoption is justified from the standpoint of cost of mainthe standpoint of cost of maintenance.

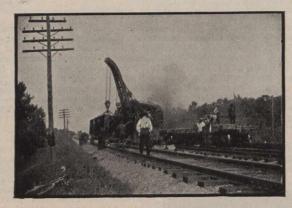
The Eelpaire fire-box has given a certain amount of trouble not tound in the other type by the cracking of the throat sheet in the O. G. shaped portion between the upper corners of the fire-box and the boiler barrel. The cause of this is not entirely plain, but it is possibly due to the connection be-tween the fire-box and the barrel of the boiler, in the ordinary type of Belpaire, being rigid only at the points where the straight or curved sides and top of the firecurved sides and top of the fire-box joint directly to the barrel. This weakness has been remedied in the design shown in fig. 3, in which it will be noticed that the sides of the fire-box are curved to conform to the shape of the barrel for a considerable distance, and for a considerable distance, and fig. 4, in which the same arrange-ment has been extended to both top and sides, so that the connection at this point has been considerably strengthened, and, experience shows that this difficulty has been to a large extent over-

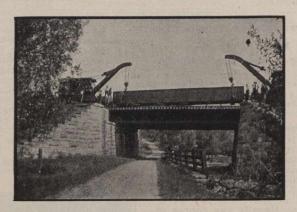
With this exception the main-With this exception the maintenance of Belpaire fire-boxes has been less than that on round top types, on account of the more equal distribution of the stresses.

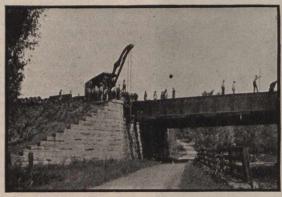
In the round top radial stayed type the staybolts at the upper corners of the inside firebox are required to transit.

to transmit a considerable strain in a horizontal direction through the crown sheet, in order to prevent the outer firebox sheet from moving outward on account of the pressure in the boiler, and in fact there is little doubt that a certain amount of movement outwards occurs. This has lead to a considerable breakage of staybolts along the upper rows of the fire-box, and consequently to the introduction of stay-bolts of a flexible type which can ac-commodate themselves more freely to the relative movement of the inner and outer fire-box sheets. There is little doubt, from the experience obtained on

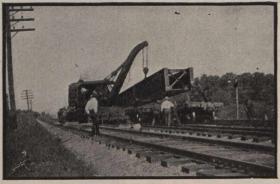
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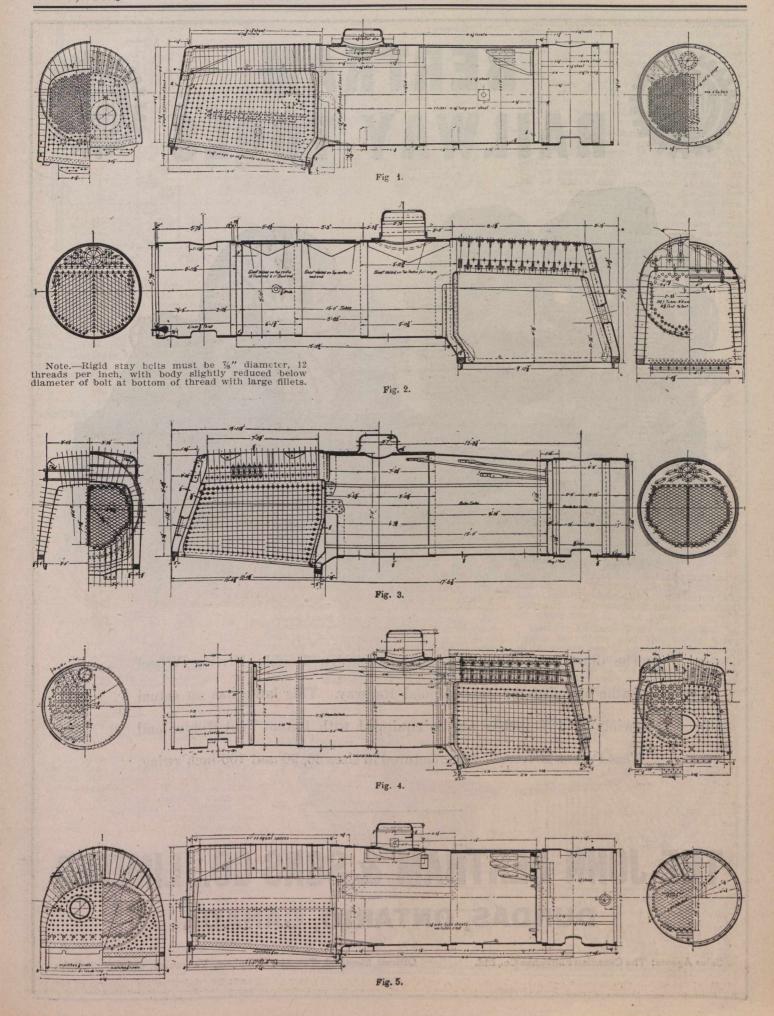
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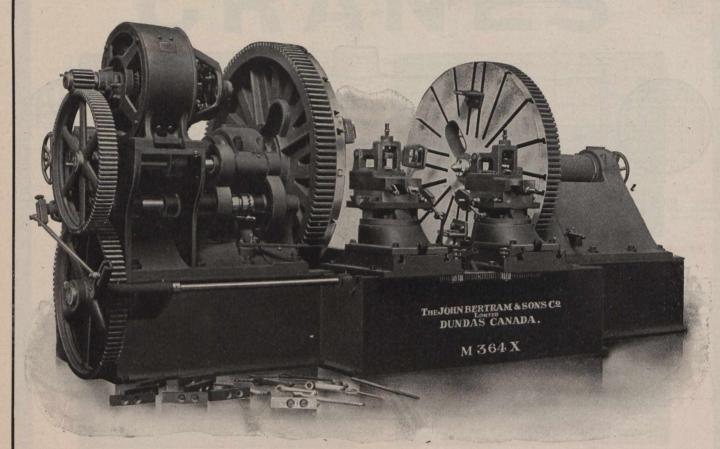
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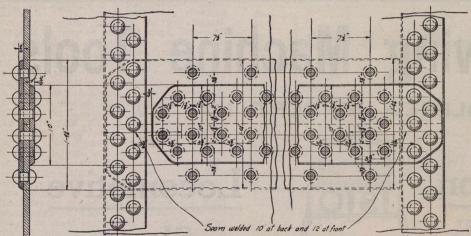


Fig. 6. 1%-in. rivets; 1 3-16 in. holes.

a large number of engines, that the Belpaire boiler, especially in bad water districts, is more free from breakage of staybolts than the round top boiler, and there is a certain amount of evidence to show that better service is also obtained from the inner fire-box sheets. While therefore the common use of the round top fire-box is justified from the point of view of first cost and safety, the

use of the Belpaire fire-box may also be justified, at any rate, on districts where the water is of poor quality, from the point of view of the lower cost of maintenance.

The boilers illustrated in figures 1, The boilers illustrated in figures 1, 2, 3, and 4, have the usual type of fire-box employed for bituminous coal on large modern engines. This fire-box is from 5 to 6 ft. wide, and extends over the frames, and, excepting on engines on which the fire-box is placed back of the driving wheels, over the driving wheels.

The grate area varies with the size of The grate area varies with the size of the boiler, but is usually from 45 to 50 square feet. Where anthracite coal is used the Wooten type of fire-box is generally employed, and fig. 5 shows a boiler recently built by the Central Rd. of New Jersey. This design of boiler affords a large area of grate surface and admits of small grades of anthracite coal being burnt at the rate necessary for locomotive service. The fire-box of these boilers is radially stayed, and owing to its form, a certain amount of difficulty has been experienced with the breakage of staybolts, and flexible bolts breakage of staybolts, and flexible bolts

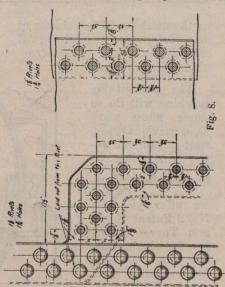
are therefore employed quite largely in its construction.

BOILER SEAMS .- The longitudinal boilseam in general use is shown in fig. 6. It is of the triple rivetted butt joint design with inner and outer welt plates, the outer welt plate being narrower than the inner. This joint has a calculated efficiency of about 85% and has proven satisfactory, especially with respect to the avoidance of the grooving which occurs in boiler plates along the edges of the welt plates. A number of administrations have adouted the prace administrations have adopted the practice of welding the boiler plates together for 9 ins. at the end of each seam. This practice has been introduced to avoid the necessity for caulking or plugging the ends of the seam between the boiler plates themselves, which project beyond plates themselves, which project beyond the ends of the outer welt plate and enables the seam to be made perfectly tight by caulking the edges of the outer welt plate and the rivet heads on the outside of the seam. The administrations using this practice report it as satisfactory and while it is not universal it is becoming general.

The seam shown in fig. 7, which is known as the diamond pattern of seam, is used by some administrations. This

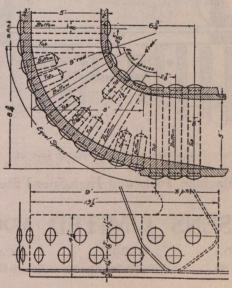
known as the diamond pattern of seam, is used by some administrations. This seam has an exceedingly high efficiency, about 95 %, but owing to its being a patented seam it is not in general use. The circumferential seam which is in universal use is a double rivetted lap seam as shown in fig. 8. and this seam is also used for the joints between the throat sheet and the barrel, and the outside fire-box sheet and the back sheet of the boiler.

MUD RINGS are almost universally double rivetted, two administrations in the U.S. and one in South America alone reporting a preference for single rivetting, and in those cases additional rivetting is shown at the fire-box corners. The usual practice is shown in fig. 9, which shows a double rivetted mud ring corner, in which a portion of the fastenings of the outside sheet to the mud ring is provided by means of tap bolts, the remaining fastenings being by rivets through both invide and provided by rivets. the remaining fastenings being by rivets through both inside and outside fire-box sheets. This design is used by the majority of administrations replying, but a few employ the design shown in fig. 10, in which the fastenings at the corner are entirely tap bolts, the through rivets being omitted. One administration prefers the design shown in fig. 11, in which the fire-box corners are triple rivetted, the remainder of the rivetting through mud ring being of the ordinary double rivetted style. There is no doubt that a certain amount of difficulty is experienced in obtaining a permanently



steam-tight joint at the front corners of the fire-box, and the triple rivetted design shown assets in overcoming this difficulty, on account of the short length of rivets used at that point.

BOILER DOMES.—The connection between the dome and the boiler barrel in universal use is shown in figs. 1 and 4, and consists of a heavy flanged collar on the outside of the boiler and a reinforcing plate on the inside. This connection has proven entirely satisfactory



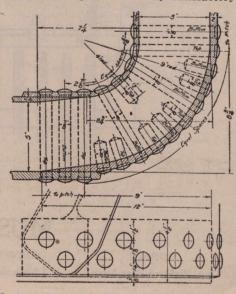
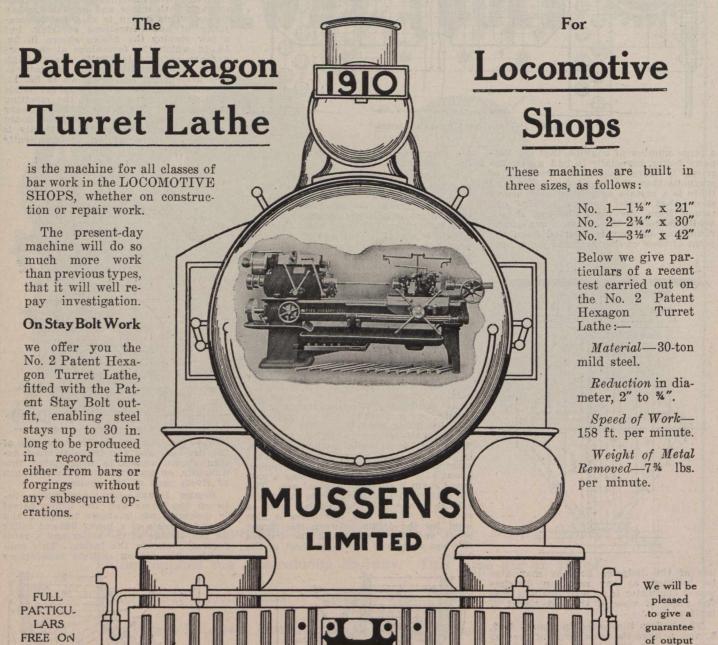


Fig. 9.

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and has practically superseded all other and has practically superseded all other designs. The dome barrel is rivetted into this collar and to the top flange. This is usually of pressed steel, although cast steel is occasionally used. In some cases the plate forming the body of the dome is welded in place of being rivetted, and the administrations using this practice report satisfactory results. this practice report satisfactory results. A modification which varies slightly from this design is shown in the drawfrom this design is shown in the drawing of the boiler used by the Pennsylvania Rd, fig. 3. In this case the entire dome is of pressed steel, the collar joining the dome to the boiler barrel and the flange at the top being in one piece. While this design is evidently exceedingly satisfactory, it is not in general favor with locomotive builders who are constructing engines for a number of different roads, and to whom the built up design of dome is preferable on acup design of dome is preferable on account of their being able to use the same flange blocks for varying heights of domes without expensive alterations.

A further instalment of this valuable and interesting paper, which was written by Mr. Vaughan for presentation at the International Railway Congress Association's meeting at Berne, Switzerland, in July, will be published in our next issue.

August Birthdays.

Many happy returns of the day to— W. E. Bishop, Manager Hamilton

W. E. Bishop, Manager Hamilton Steamboat Co., Hamilton, Ont., born at Frantford, Ont., Aug. 10, 1868. J. F. Chapman, General Freight and Passenger Agent Bay of Quinte Ry., Thousand Islands Ry., Oshawa Ry., and Deseronto Navigation Co., Deseronto, Ont., born at Frankford, Hastings Co., Ont., Aug. 25, 1862.

Ont., born at Frankford, Hastings Co., Ont., Aug. 25. 1863.
C. H. N. Connell, Engineer of Maintenance of Way Canadian Northern Quebec, and Quebec and Lake St. John Rys., Quebec, born at Woodstock, N.B., Aug. 26, 1876.

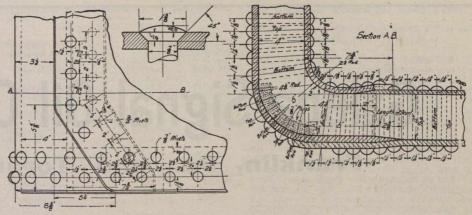


Fig. 10.

F. Barlow Cumberland, Vice President Niagara Navigation Co., Port Hope, Ont., born at Portsmouth, Eng., Aug 5,

C. D. Fisher, Superintendent District 3 Canadian Northern Ry., Dauphin, Man., born at Athens, Ont., Aug. 24,

G. H. Ham. head office staff C.P.R., Montreal, born at Trenton, Ont., Aug. 23,

W. P. Hinton, General Passenger Agent G.T.P.R., Winnipeg, born at Hin-tonburg, Ont., Aug. 30, 1871. R. Kerr, Passenger Traffic Manager

C.P.R., Montreal, born at Toronto, Aug., 1845.

J. D. McDonald, District Passenger Agent G.T.R., Toronto, born there Aug. 27, 1855.

T. McHattie. Superintendent of Mo-tive Power and Car Department Cen-tral Vermont Ry., St. Albans. Vt., born at Dufftown, Banffshire, Scotland, Aug. 1854.

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

W. E. Mullins, General Manager Costa Rica Rd., and Northern Rd. of Costa Rica. San Jose, born at Stratford, Ont.,

Aug. 13, 1870. F. H. Phippen, K.C., General Counsel C.N.R., Toronto. born at Belleville, Ont., Aug. 26, 1862.

Aug. 26, 1862.
W. M. Porteous, Freight Agent C.P.R.,
St. Louis, Mo., born at Edinburgh, Scotland, Aug. 3, 1857.
J. F. Richardson, Superintendent Telegraph Eastern Division C.P.R., Montreal,
born at Granby, Que., Aug. 23, 1861.
W. G. Ross. Managing Director Montreal St. Ry., Montreal, born there, Aug. 6, 1873.

6, 1873. W. Le B. Ross, Local Treasurer G.T.

Pacific Ry., Winnipeg, born at Ottawa, Ont., Aug. 9, 1868.
F. C. Salter. European Traffic Manager G.T.R., and Canadian Ex. Co., London, Eng., born at Sarnia, Ont., Aug. 31, 1863.

C. R. Scoles, General Manager Atlantic

Que., born at Grantham, Lincoln, Eng., Aug. 27, 1856.

W. Stitt, General Passenger Agent C.P.R. Eastern Lines, Montreal, born in Kircudbrightshire. Scotland, Aug. 3,

Kircudbrightshire. Scotland, Aug. 3, 1855.

J. F. Sweeting. Industrial Agent C.P.R. Western Lines, Winnipeg, born at Worthing, Eng., Aug. 20, 1872.

W. F. Taylor, General Storekeeper I.C.R., Moncton. N.B., born at Hillsboro, N.B., Aug. 20, 1855.

W. B. Way, Assistant Superintendent C.P.R., Chapleau. Ont., born at Bowmanville, Ont., Aug. 22, 1867.

Correction.—The birthday of Geo. Collins, General Manager Central Ontario Ry., Trenton, Ont., was incorrectly stated in our last issue. He was born at Kingston, Ont., July 20, 1860.

Intercolonial Ry. Branch Lines.—During his recent trip to the Maritime provinces, from which he returned to Ottawa, July 4, the Deputy Minister of Railways inspected a number of the branch lines which it is proposed to take over under the provisions of the act passed last year. The lines inspected were the Caraquet Ry., and its extension the Gulf Shore Ry.; the Kent Northern Ry.; the Hampton and St. Martins Ry.; the Elgin and Havelock Ry.; the Buctouche and Moncton Ry.; the Cumberland Ry. and Coal Co.'s line, and the Cape Breton Ry. The information collected is being considered by the mem-Intercolonial Ry. Branch Lines.-Durlected is being considered by the members of the Government Railways Managing Board, and a report with recommendations will be prepared.

A. R. Creelman, K.C., General Counsel C.P.R., sailed from Quebec early in July for England, accompanied by his two daughters and Miss Helen McNicoll.

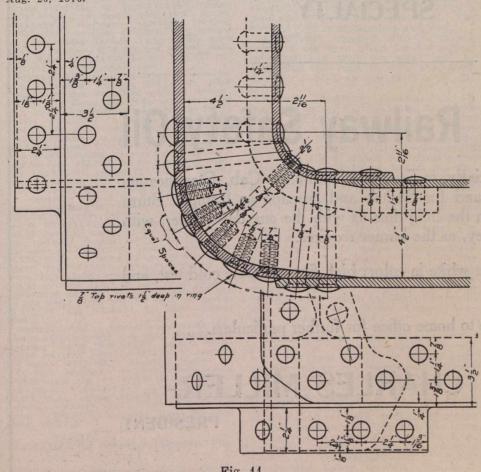


Fig. 11.

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PRESIDENT

Canadian Northern Ry. Earnings, Etc.

Gross earnings, working expenses, net profits, increases or decreases from 1908-09, from July 1, 1909:

	Earnings.	Expenses.		let Increase or Decrease.
July	\$ 843,500	\$613,900	\$229,600	\$ 26,700+
Aug.	807,100	602,700	204,400	18,300+
Sept.	1,076,800	765,300	311,500	60,400+
Oct.	1,384,200	903,500	480,700	60,600+
Nov.	1,517,600	970,100	547,500	134,000+
Dec.	1.160,300	825,900	334,400°	49,300+
Jan.	792,200	669,700	122.500	22,200+
Feb.	698,900	567,400	131,500	35,100+
Mar.	934,100	661,800	272,300	67,800+
Apr.	1,153,100	821,900	331,200	107,300+
May	1,224,900	856,300	368,600	185,700+
	\$11,592,600	\$8,258,500	\$3,334,100	\$771,200+
Inc.	\$ 2,728,700	\$1,957,500	\$771,200	

Approximate gross earnings for June. \$1,228,600, and for two weeks ended July 14, \$586,700, against \$805,000 and \$370,500 for same periods 1909.

C.P.R. Earnings, Expenses, Etc.

Gross earnings, working expenses, net profits, increases r decreases over 1908-9, from July 1, 1909:

\$86,181,672,83\$55,059,632.52\$31,122,040.31\$10,054,892.20+ Inc. \$16,418,505.55 \$6,363,613.35 \$10,054,892.20 Approximate gross earnings for June, \$8,404,000, and for two weeks ended July 14, \$3,950,000, against \$6,354,000 and \$3.232,000 for same periods 1909.

both two weeks ended July 14, \$3,50,000, against \$6,354,000 and \$3.232,000 for same periods 1909.

DULUTH, SOUTH SHORE AND ATLANTIC RY.—Operating revenue for May, \$298,112.11; expenses \$223,999.76; net. revenue \$74,112.35, against \$246,847.24 operating revenue; \$177,066.90 expenses; \$69,780.34 net revenue for 11 months ended May 31, \$2,999.166.48; expenses \$2,065,618.67; net revenue \$935,547.81, against \$2,449,854.05 aggregate operating revenue; \$1,774,649.66 expenses; \$675,204.39 net revenue; \$1,774,649.66 expenses; \$675,204.39 net revenue; \$1,774,649.66 expenses; \$675,204.39 net revenue; \$1,774,771 for same period 1908-09. Approximate gross earnings for June, \$301,887, and for two weeks ended July 14, \$132,889, against \$280,151 and \$131,771 for same periods 1909.

MINERAL RANGE RD.—Operating revenue for May, \$63,899.54; expenses \$66,424.64; deficit \$2,525.10, against \$66,119.32 operating revenue; \$61,464.71 expenses: \$4,654.61 net revenue for May, 1909. Aggregate operating revenue for May, 1909. Aggregate operating revenue; \$65,878.86; net revenue \$82,788.41, against \$755,806.46 aggregate operating revenue; \$635,999.21 expenses; \$119,897.25 net revenue for same period 1908-09. Approximate gross earnings for June, \$65,278, and for two weeks ended July 14, \$24,471, against \$66,026 and \$31,441 for same periods 1909.

MINEAPOLIS, ST. PAUL AND SAULT STE. MARIE RY.—Operating revenue for May, \$1,196,049.50; expenses and taxes \$794,406.03; operating income \$401,643.47, against \$987,063.73 operating revenue; \$702,234.84 expenses and taxes; \$284,-828.89 operating income for May, \$1,196,049.50; expenses and taxes \$794,406.03; operating revenue; \$702,234.84 expenses and taxes; \$284,-828.89 operating revenue for 11 months ended May 31, \$14,068.812.18; expenses and taxes; \$284,-828.89 operating income for May, 1909. Aggregate operating revenue; \$7,301,110.60 expenses and taxes; \$4,235,-562.10 operating income for same period 1908-09. Approximate earnings for June, \$1,926.866, and for two weeks ended July 14. \$902,191, agai

1909.
CHICAGO DIVISION.—Operating revenue for May, \$798,060.82; expenses and taxes \$566,774.84; operating income \$231,285.98, against \$611,977.76 operating revenue; \$476,571.01 expenses and taxes; \$135,406.75 operating income for May, 1909. Aggregate operating revenue for 11 months ended May 31, \$8,132,662.84; expenses and taxes \$5,680.835.93; operating income \$2,451,826.91, against \$6,902,391.73 aggregate operating revenue; \$5,012,404.50 expenses and taxes; \$1,889,987.23 operating income for same period 1908-09.

Grand Trunk Ry. Earnings, Expenses, Etc.

he following figures show the earnings of G.T.R., C.A.R., G.T. Western Ry., and

D.G.H. and M. Ry., separately, for Apr., as compared with Apr., 1909:—
GRAND TRUNK RAILWAY.

1910.	1909.
Earnings\$2,856,200	\$2,481,600
Expenses 1,827,600	1,554,700
Net earnings\$1,028,600	\$926,900
CANADA ATLANTIC RAILWA	Y.
Earnings \$176,600	\$154,600
Expenses 157,500	135,900
Net earnings \$19,100	\$18,700
GRAND TRUNK WESTERN RAIL	
Earnings \$533,000	\$461,300
Expenses 445,100	331,100
Net earnings \$87,900	\$130,200
	AUKEE RY
Earnings \$165,900	\$142,200
Expenses	114,300
Net earnings \$14,300	\$27,900

TRAFFIC RECEIPTS OF THE SYSTEM.

Aggregate from :	Jan. 1 to	June 30:	
19	910.	1909.	Inc.
Grand Trunk £3	3,318,809	£2,864,776	£454,033
Canada Atlantic.	194,243	166,093	28,150
G. T. Western	642,384	553,860	88,524
D.G.H. & M	195,843	160,325	35,518

Totals£4,351,279 £3,745,054 £606,225

Approximate gross earnings for June, \$3,965,062, and for two weeks ended July 14, \$1,800,407, against \$3.465,054 and \$1,558,155 for same periods 1909.

A Railway to Hudson Bay.

We are officially advised that the bridge which is to be erected across the Saskatchewan River at Le Pas, Sask., will be of the through Pratt truss type. consisting of four fixed spans of 147 ft. consisting of four fixed spans of 147 ft. each, and one swing span of 262 ft. It is designed to comply with the Dominion Government specifications for heavy class loading, and provision is also made for carrying a highway on cantilever brackets. The abutments and piers are to be of concrete. The denth of water brackets. The abutments and piers are to be of concrete. The depth of water in the river at the point of crossing is about 20 ft. at low water level, with a flood rise of 20 ft. above that level. The river bottom is of boulders and clay.

An Ottawa dispatch, July 6, says a contract has been given for the super-structure and that the work will be completed this year, in order that work may be started on the railway in the

Reports reaching Ottawa July 12, from the survey parties in the field state that a line with a maximum gradient of that a line with a maximum gradient of 0.4% has been located, which is rather better than it was thought would be obtained. The new route is to the south of Nelson River, which will obviate the construction of a bridge across it. The further reports also strongly favor the settlement of Port Nelson as the terminal on Hudson Bay, but this will not be finally decided upon until after the return of the hydrographic survey parties. These left Halifax July 2 on board the s.s Halifax, and on the schooner Chrissie G. Thomey, which sailed about a week previously. The Stanley will pick the schooner up and tow her to the Nelson River, in the vicinity of which she will cruise during the summer, while the Stanley will return to Fort Churchill, and make surveys in the deeper channels. (July, pg. 535.) (July, pg. 535.)

Quebec Railway Acts.—The acts of the Province of Quebec, relating to railways, the taxes payable by railway companies, and to the repayments of railpanies, and to the repayments of rail-way subsidies, taken from the Revised Statutes of Quebec, 1909, with a table showing the subsidies of all kinds which have been granted and paid on account of provincial railways, have been printed in both English and French in the same volume, having been compiled by J. A. Lefebvre, Secretary of the Railway Branch of the Department of Public Works and Labor, Quebec. The book is for sale by the compiler at \$2.

A Graphical Record for Road Tests.

By G. I. Evans, Chief Draftsman, Locomotive Department, C.P.R., Montreal.

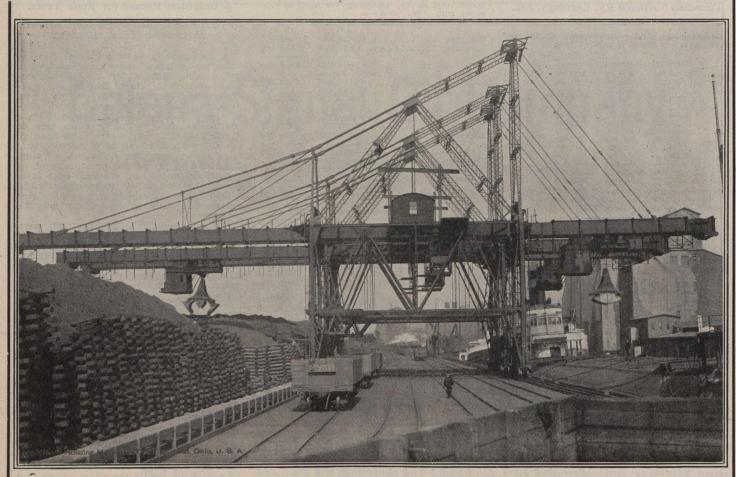
A great many railways, from time to time, test some of the numerous devices put on the market for use on locomotives and cars. Such devices are generally not amenable to laboratory tests, and must be put into actual service be-fore any idea can be obtained as to their usefulness, and, as one or more may be applied on different locomotives running on different locomotives running on different divisions of a railway, and may be in service any length of time from one to 12 months or more, and, as results are noted and reported by master mechanics and other operating officials, considerable correspondence accumulates before any definite conclusions may arrived at.

Given a sufficient number such tests, a man will spend much more of his time than he can spare in wading through files of correspondence, trying trying through files of correspondence, trying to get an idea how matters stand, and having just this condition, the writer some time ago devised the combined record and chart which is shown on page 619, as a convenient way for following up road tests. The record is kept on letter size cards (8% in by 10% in.) outlined as shown, and printed on both sides. These cards are filed apart from the correspondence, consecutively, in a vertical file, and as they secutively, in a vertical file, and as they take up but small space, a large number can be retained in the file, forming a permanent record of all tests made. The correspondence file, which is bulky, is regularly weeded out, and all closed tests are removed to the storage file.

The first portion of the card gives a complete record of the application of the device, when reports are to be sent

in, and to whom the final report is to be submitted, while the chart shows at a glance how these instructions are being carried out, and what results are being obtained. The chart is divided into two obtained. The chart is divided into two main horizontal sections, the one above the heavy line is for reports favorable to the device under test, and the lower for those unfavorable; each of these main divisions is again subdivided into three sections, each of which represents a degree of excellence or provided the sections. three sections, each of which represents a degree of excellence or unsuitableness as compared with some standard which has been previously assumed, thus, a report may be received saying that a certain device is giving as satisfactory service as the one which it is intended to supersede. This would naturally be a no. 1, unfavorable, but if the report had shown that the performance was slightly better than the standard, it would be a no. 2 favorable, etc. Unfavorable reports are recorded in a similar manner, slightly inferior to the standard constituting a no. 1 unfavorable, etc. When slightly inferior to the standard constituting a no. 1 unfavorable, etc. When entering the report a dot is made opposite the month in such a position as to represent approximately the date received and the curve is drawn through these points, a letter representing the division is placed class to the dat show. when division is placed close to the dot show-ing from where the report came. By noticing whether the dates on which the noticing whether the dates on which the reports are received correspond with the dates on which they are expected, a check can be kept on who is behind with reports. On the back of the card is a short summary of each report received and finally the date on which the test was closed and the recommendations made as to the advisability of adopting the device.—American Engineer and the device.—Am Railroad Journal. device.—American Engineer and

The Railway Mail Clerks' Association at its recent convention in Kansas City, Mo., adopted a resolution asking the Government to prohibit railways from using wooden mail cars between locomotives and steel cars, or between steel



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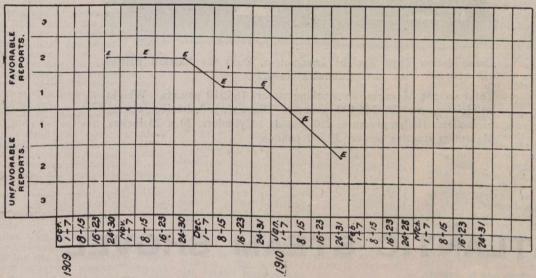
PITTSBURG AND NEW YORK

CANADIAN PACIFIC RAILWAY.

	REC	ORD OF TEST NO	, 50		ON Pi	iston Rod Lubricator
Applied						; Reports expected every two weeks
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Authority for test Supt. Motive Power, letter Oct. 12 1909 Final report to be sent to Asst. to Vice President & Supt. Motive Power Remarks as to application This lubricator is intended to oil the piston rods and works as a displacement lubricator when throttle is open, and as a suppon oil cup when throttle is closed.

It must be shut off when engine is standing.



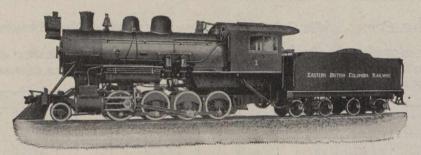
Face of card for keeping a graphical record of road tests.

SUMMARY OF REPORTS.

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Reverse of card for keeping a graphical record of road tests.

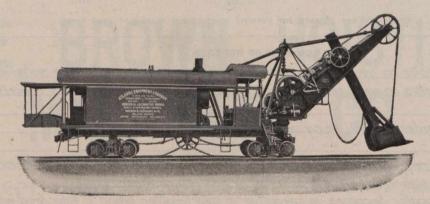
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Total weight of engine in working order, 186,310 pounds. Weight on driving wheels, 166,100 pounds. Diameter of driving wheels, 51 inches. Boiler pressure, 210 pounds. Cylinders, 20 x 28 inches. Maximum tractive power, 39,200 pounds.

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Direct wire rope hoist with but one sheave, instead of chain hoist with from five to seven sheaves, reduces delays and loss of time due to breakdowns, increases the efficiency of the engines, and reduces repair bills as well as fuel consumption.

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

St. John, N.B.—D. McNicoll, Vice President, had a conference with the city aldermen at St. John, N.B., July 7, with respect to the transfer of the west-side slip. He stated that the company desired the west-side slip, believing it would be a valuable asset in the development of a business, the limits of which were as yet unknown. There was ample room for all kinds of developments on the west side, and the company was not therefore troubling about the problem of getting to Courtenay Bay. In the course of an interview, he was asked if the taking over of the Dominion Atlantic Ry., meant that Halifax would be favored as to the C.P.R. ocean steamship business to the detriment of St. John and replied that St. John people seemed to be very suspicious; why should St. John be jealous of Halifax, or Halifax of St. John?

Lachine Bridge.—A contract is reported to have been let to the Foundation Co., Montreal, for the enlargement of the piers which carry the present bridge over the St. Lawrence at Lachine, so that they will be large enough to carry a second track, and to construct two additional piers. Another report states that a contract has been placed in the U. S. for 10,000 tons of structural steel for the erection of the superstructure.

that a contract has been placed in the U. S. for 10,000 tons of structural steel for the erection of the superstructure. We are officially advised that it is proposed to extend the masonry piers down stream to provide for an additional track. The spans in general will be of the same length as at present, except that the four northerly truss spans will be shortened from 240 to 120 ft, and four additional piers constructed. An order for the structural steel has been placed with the Dominion Bridge Co., Montreal.

Hull Station.—The Hull, Que., Board of Trade is representing to the company the necessity for the provision of a larger freight and passenger station there.

Georgian Bay and Seaboard Ry.—A mortgage dated Jan. 1, 1910 made between the G.B. and S. Ry., the Royal Trust Co., and the C.P.R., has been deposited with the Secretary of State at Ottawa.

Toronto City Ticket Office.—The company has leased the building, 3 King St. East, adjoining its present city offices, and it is reported that a large office building will be erected on the site of the two properties.

North Toronto Tracks.—Objection has been made by property owners at different points along the route of the old Ontario and Quebec Ry. through North Toronto, to the plan of the viaduct which the C.P.R. proposes to construct in order to do away with level crossings. Cottingham St. property owners ask that that street be depressed to run into the Yonge St. subway, as Dufferin St. runs into the Queen St. subway, so that the residents of the district served will not have to take a circuitous route to reach the cars. Avenue Road property owners also protest against the company's plans, and ask that alternative plans for depressing the present street grades at Avenue Road and Yonge St. be prepared and considered.

and considered.

North Parkdale Station.—The new station building at North Parkdale, now being built, will be one story brick walls on a concrete foundation, with slate roof. It will have a frontage along the track of 100 ft. 8 in., with a depth of 32 ft. At each end of the building there will be a covered area 28 by 25 ft. The waiting rooms will be a space 16 by 18½ ft. for the office. Adjoining the waiting room is a baggage room 20 by 30 ft., and next to that an express room of similar dimensions. Pro-

vision is made for lavatory accommodation off the waiting room. The waiting room and office will be 15 ft high, finished in burlap to a height of 5 ft., and plastered above that height. Provision is made for a basement under the entire building, but at present the basement will only be provided under the baggage and express rooms. The contractors are Wells and Gray, Toronto.

St. Mary's and Western Ontario Ry.—An appeal to the Divisional Court at Toronto against the recent decision of Chief Justice Mulock, to quash the Blanshard tp. by-law granting a subsidy of \$20,000 to the company, was made, and judgment delivered June 30, under which an order has been made quashing the by-law, with costs against the municipality. This is the third time the bylaw has been quashed, on some ground or other

Kaministikwia River Bridge.—Tenders were received to July 15 for the construction of piers, abutments and pedestals for the new bridge over the Kaministikwia River at Fort William, Ont. It will be approached on wooden trestles, on a gradient of 1 in 20, and the bridge proper will be 330 ft. long, of which the actual opening of the bascule span will be 180 ft., with 40 ft. for the swing. There are to be in all, 13 pieces of concrete work to be put in position for abutments, piers and pedestals, of which six sets will be for the portion of the bridge over the river. Piers 8, 9 and 10 are for the bascule span, and of these piers 8 and 9 will be 72½ ft by 14 ft. and 24 ft above foundations, while pier 10 will be 45 ft. 10½ in., by 14 ft. 4½ in., and 28½ ft. in height above foundations. The swing part of the span will be carried on piers 8 and 9. The pedestals for the other spans will be 5½ ft. square. The substructure will be of concrete, piles to be used in the foundations where necessary. The superstructure will be of steel, carried on steel pillars, and will have a total length of 330 ft. between the trestle approaches.

McPhillips St. Subway, Winnipeg.—Construction is being proceeded with at a satisfactory rate with the building of subways under the C.P.R. tracks at this point, Winnipeg. There are five tracks crossing the street, and these are connected to another track by a switch. About onehalf of the excavation, estimated at 35,000 cubic yards, has been removed since May 1. The steel superstructure will be carried on 13 concrete pedestals. The excavation runs back to Logan Ave., and for a corresponding distance on the north side of the subway. It is expected to have the work completed by the fall. John Gunn & Sons have the contract.

Bridge at Brown and Brant St., Winnipeg.—A contract has been let by the city council for the steel superstructure of a bridge across the C.P.R. tracks at Brown and Brant streets, Winnipeg, at a cost of \$205,160.

Winnipeg-Brandon Second Track.—In connection with the building of a second track between Portage la Prairie and Brandon, Man., we have been officially advised that J. G. Hargrave and Co., having completed the grading for the second track from Winnipeg to Portage la Prairie, have been allowed to continue grading on towards Brandon. The plans for the present season only included the work, including track laying, to Portage la Prairie.

Branch Line from Bassano, Alta.— Press reports state that engineers have made surveys for a line to be run from Bassano, Alta., north-easterly to a junction with the Didsbury and Kininvie line in the irrigation district.

Calgary Improvements.—The re-arrangement of the yard accommodation at East Calgary, Alta., will provide storage for 1,000 additional freight cars.

The yards will include a hump distributing track, and will be available in the fall. An 18-stall roundhouse, and a new machine shop are also under construction. The freight warehouse accommodation is being doubled, and the enlarged station is expected to be ready for occupation in Nov.

Strathcona-Edmonton Bridge.ders were received to July 20 for the erection of the substructure of the bridge across the North Saskatchewan River at Edmonton, Alta. It will have a total length of 2687 ft. from face to face of ballast walls. It will be approached from the Strathcona end on a proached from the Strathcona end on a curve of 6 deg. 7 min., near Legal Ave., and cross Soullier and Angier Aves., and will be carried on 29 sets of pedestals to the Edmonton shore, where it will cross the Canadian Northern Ry., Sackatchewan Ave., Hardisty Ave., McKay Ave., and Victoria Ave., the Edmonton approach being on a 2 degree Ray Ave., and Victoria Ave., the Edmonton approach being on a 2 deg curve, a total of 1888 ft., 7 in., being on a tangent. The approaches to the bridge will provide for the C.P.R. tracks, with one track for the street railway on either side, a 23 ft.. roadway with an 8 ft. side-walk on either side. About half way between Soullier and Angier avenues the roadway and sidewalks will be carried to a lower level, and carried across the river beneath the floor of the bridge carrying the steam and street railway tracks, near Saskatchewan Ave. Con-crete pedestals will be built in groups of four, with foundations carried to hard pan, piles to be used only if necessary, pan, piles to be used only if necessary, to carry the superstructure over the land. Upon these pedestals will be erected steel work of the same character as that used in the Belly River bridge, to carry the double deck, rail level at the highest point being 140 ft. above ground. This portion of the bridge is on the Strathcona side, and the superstructure will consist of seven spans of 49 ft. 5 in., alternating with six spans of 97 ft. 8 in., and one of 99 ft. exclusive of the approach spans. The river will be crossed on three spans, carried on concrete piers, two of 291 ft., 10½ in, and one of 293 ft. 3 in. The foundations of the four piers carrying these spans are to be carried down to a solid foundation. are to be carried down to a solid founda-tion, concrete piles to be used if neces-sary, and are to be constructed so as to carry nine tons to the square foot. The two centre piers are to be protected against ice, etc., in the usual way. Two spans on the Edmonton side on pedestals will carry the bridge over the Hudson Bay reserve and the C.N.R. right of way. The height of the floor of the railway deck will be 14 ft. clear from the roadway, which will be 23 ft. clear, the sidewalks being carried on a bracket work. The railway track deck, will be 25 ft. wide. work. The 35 ft. wide.

Kootenay Central Ry.—We are officially advised that a contract has been let to Foley, Welch and Stewart, for the construction of the first 25 miles of this projected line from Wardner to near Fort Steele, B.C.

Beavermouth to Revelstoke, B.C.—C.P.R. engineers started out from Beavermouth recently to follow the Columbia River around the Big Bend to Revelstoke, B.C., and press reports state that the object is to secure a route for a line which will connect up with the Kootenay Central Ry.

Kamloops Improvements.—Work has been started on the re-arrangement of the yard accommodation at Kamloops, B.C. A new machine shop and roundhouse is to be constructed, and the existing buildings are to be removed. McDiarmid and Co.. Winnipeg, are the contractors.

Phoenix Spur Tracks, Etc.—Large gangs are reported to be employed in raising the 10 miles of track between Phoenix and Eholt and in laying it with

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The spur tracks to the 80-1b. steel. Granby, Snowshoe, Jackpot and Denoro

mines are also being improved.

Vancouver to Port Moody, B.C.—A
press report says the C.P.R. is starting
to build a second track from Vancouver
to Port Moody, B.C.

Esquimalt and Nanaimo Ry.—A press

dispatch says it has been announced in Victoria, B.C., that a branch line will Victoria, B.C. that a branch line will be constructed forthwith from Duncan to Cowichan, Vancouver Island. This announcement followed the reported sale to the American Finance and Securities Co., of 50,000 acres of timber lands round Cowichan Lake, to open up which the company agreed to build a 25-mile line. (July, pg. 533.)

Great Northern Ry. Lines in Canada.

Midland Ry. of Manitoba.—It is said to have been decided for the present to abandon the intention to build a line from Emerson, at the International boundary, into Winnipeg, an arrangement having been made for running rights over the Canadian Northern Ry. between these two points. The M.R. of M. will build a line from Fort Whyte Jct., at the south-west corner of the city limits, to the freight terminals on Ross St. This line, which will be used for freight purposes only, the passenger trains being run to the Fort Garry union station, will run parallel with the C.P.R. Gretna line from Fort Whyte, on the east side, to Elgin Ave., where it will turn eastward to Ross St. The tenants of the property on Nena St. where it will turn eastward to Ross St. The tenants of the property on Nena St. were all required to vacate by July 15, in order that the different premises might be pulled down. J. Fisher K.C., the company's solicitor, recently said an engineer and party were preparing plans and as soon as they are sufficiently matured work would be started. The first work to be taken in hand will be the subways. subways.

Offices have been opened in the Oris Block, Nena St.. with A. Jackson, of the G. N. Ry. engineering staff, St. Paul, Minn., in charge.

Vancouver, Victoria and Eastern Ry. and Navigation Co.—The amended plan and profile and book of reference of the and profile and book of reference of the company's proposed line from the east line of sec. 15, tp. 16, to the west line of tp. 26, New Westminster district, 18.3 miles, certified by the Board of Railway Commissioners. has been deposited in the New Westminster city land registry office.

Application is about to be made to the Application is about to be made to the Board of Railway Commissioners for authority to build a spur track to the Vancouver-Prince Rupert Meat Co.'s plant at Sapperton, B.C., and a connection with the C.P.R., as shown on plans deposited in the Land Registry office at

New Westminster.

New Westminster.

The construction of a bridge at Broadway East, Vancouver, is recommended by Assistant Chief. Engineer Stewart, in connection with the False Creek reclamation and development plans. The bylaw confirming the agreement as to this property, referred to in our last issue, was voted on June 28, and was carried by a vote of 2717 against 657, or 692 more than necessary.

A. E. Howard, on behalf of the company, said steps would be at once taken to buy out or expropriate the other owners of riparian rights around the head of the creek, and the company would then go ahead, file plans, and start work immediately on their approval. The work would go ahead fully as a step it. mediately on their approval. The work would go ahead fully as soon as the city had secured from the Dominion and Provincial Governments a relinquishment of their wights cover the control of their wights cover the c of their right over the tide flats in the

Two new tracks for passenger traffic and two for freight are being added to the company's present yard terminals in Vancouver. (July, pg. 537.)

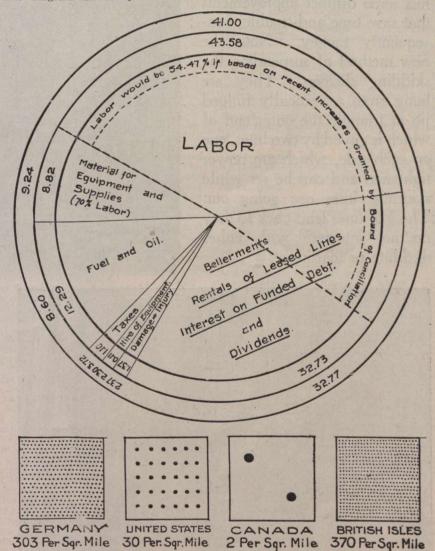
Cost of Operating Railways.

The accompanying diagram supplied The accompanying diagram supplied by a railway official, shows how the gross earnings of Canadian and United States railways for the year ended June 30, 1909, were spent. The figures in the inner circle are for Canadian railways, those in the outer circle for U.S. railways. The dotted lines show the extent to which the cost of labor would tent to which the cost of labor would ultimately be increased and its conse-quent effect upon betterments and finances of the railways, on the basis of the recent awards of the boards of con-cilliation in the trainmen's disputes with the companies. The official referred to has also supplied the following memor-

'The diagram should prove interest-

for labor, 75% of the money paid on account of fuel and oil, representing account of fuel and oil, representing 9.7% of gross earnings, goes to the men who mine coal and boil oil. This brings the amount paid to labor directly and indirectly up to 52.65% of the earnings. The cost of upkeep, material, equipment and supplies eats up 8.82% of the gross earnings, 6.02% of which goes to the men who work with their heads and hands to produce these items and articles. So we find that the railway pays out for labor close to 60% of every dollar taken in dollar taken in.

"The fact that Canadian railways pay considerably more of each dollar on this account than is paid by their U.S. competitors refutes the argument that U.S. manufactures come to Canada in order to secure cheaper labor. Natur-



ing to the general public, to railway managers and employes. It should be of some help also to conscientious statesmen who are often asked to throw the harpoon into the railways before the latest wound has healed. It will surprise some people to learn that according to Government reports, 43.58% of the gross earnings of Canadian railways goes to labor direct, as compared with 41% paid on the same account by United States roads. This is largely due to the climatic conditions and to the lower earning power of the Canadian lower earning power of the Canadian railways. Moreover, U.S. roads, covering about the same territory as Canadian roads cover, operate through a dian roads cover, operate through a settled country, serving 87,000,000 peo-ple, while Canadian roads have only 7,000,000 to serve.

"In addition to the 43% of gross paid

ally our winters being longer and hard-

ally our winters being longer and harder and our days shorter than the winters and days are farther south our rall-ways get less out of the day's work.

"Another point against our railways is that nearly every U.S. line running east and west passes through or near some vast coal field. Canadian roads have not only to haul their coal great distances, but in addition have to pay a heavy duty on every top of coal they heavy duty on every ton or coal tney import, a serious handicap.

"The tendency in Canada, as in the "The tendency in Canada, as in the States for the past decade, has been to raise taxes and at the same time reduce the rates, to reduce the earning power and increase the fixed charges. In the meantime during the past 10 years the wages of railway employes in Canada have been increased by nearly 30%. So all things considered Canadian rail-

Results Are What Count

A Combined Skidding and Loading Machine that will clear up the largest area at a setting and can be moved and set up ready for business in the shortest possible time will get the best results

The latest Russel Machine has some distinct improvements that save time and trouble, consequently money. Note the new method of suspending the skidding sheaves. They are hung from a vertically hinged jib or triangle the outer end of which is guyed by two lines, one on each side, which are power tightened and can be set while skidding lines are going out. The guy lines lead back so they do not interfere with either skidding or loading.





The uppermost leg of the jib has a spring connection to the tower, reducing shocks. All strains due to skidding are absorbed by the guy lines. The swinging boom is operated by wire ropes passing through sheaves suspended from a steel frame projecting from the tower and leading to two drums on loading engine, controlled by one lever. Machine is raised or lowered by hydraulic or patented geared jacks.

Built for 2 or 4 lines with stiff or swinging boom. Constructed entirely of steel, except loading boom.

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LOGGING CARS AND DUMP CARS

RUSSEL WHEEL & FOUNDRY CO.

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ways make a splendid showing from most any viewpoint, and they unquestionably have in many respects a harder row to hoe than have the U.S. lines, with whom for transcontinental traffic they must compete."

Algoma Central & Hudson Bay Railway.

The following are extracts from a circular issued by the directors to the Lake Superior Corporation's shareholders, recently:—

The most vital and pressing remaining object now sought to be attained is the completion of the A.C. & H.B. Ry. to a connection with the C.P.R. main line, making a total mileage of 225 miles, of which at present only 90 miles are in operation. In its present incomplete condition, implying as it does the isolation of the steel plant from its ore supply during five months of the year, the earnings of the railway company are small and stationary. Through its completion the railway would secure many advantages. The railway revenues, based on careful estimates made by your officers and the board, would much more than suffice to cover the interest on cost of construction. Canadian iron ore of pred quantity and quality will be made a solable, and, with the railway in operation, the ore can be delivered at Sault Ste. Marie at a cost considerably below the price now being paid for similar ore from the U.S. The opening up of the timber lands will also naturally be of value to the lumber and pulp industries. A valuable land grant of 1,665,000 acres under the Ontario Government land grant will be se-cured, including timber and mineral lands of great potential value, and to secure which it is a Government condition that the railway be completed by Dec. 31, 1911. This implies the neces-sity for immediate progress in construction, for which everything is in readi-

Briefly stated, the plan for the completion of the construction of the railway, which has been unanimously approved by your directors, is as follows: The railway as it exists to-day is sold for the equivalent of \$3,000,000 under the powers given in the first collateral trust mortgage of the Lake Superior Corporation and \$3,000,000 bonds issued under that mortgage will be cancelled, thereby reducing the amount of the first mortgage collateral trust bonds of the Corporation outstanding to \$7,000,000. The railway company will be re-capitalized as follows: 50-year 5% first mortgage redeemable gold bonds (limited to \$30,000 per mile of completed road), \$6,750,000; five per cent. non-cumulative preferred stock. \$5,000,000; common stock, \$5,000,000. The proceeds of the sale of securities under the above capitalization together with the cash subsidies to be earned from the Dominion Government will give sufficient funds for the completion of the road. In consideration of a guarantee of the principal and interest of the \$6,750,000 first mortgage bonds of the railway company by the Lake Superior Corporation, the latter will receive the whole of the \$5,000,000 common stock and will hold \$1,125,000 of the preferred stock for the benefit of the railway.

The directors are glad to have this opportunity of reporting that, so far as the affairs of the Corporation generally are concerned, most satisfactory progress is being made. The construction of the new furnace, merchant mills and coke ovens is proceeding rapidly, and, so far as can be seen, most of these plants will be entirely completed by the end of the year, whilst the estimated cost is not likely to be exceeded. The board has been especially desirous of placing the steel department in an in-

dependent position so far as its necessities in raw material are concerned, exploration for ore has been strenuously carried on for some time past and their efforts have already met with a large measure of success. It is confidently be-lieved that when the railway extensions completed the steel plant will be in an independent position both in regard to basic and bessemer ores. A perman-ent supply of limestone of exceptional quality and of very large extent has been secured on extremely favorable Negotiations have practically been completed by which the Corporation will secure and control its own ore areas. Some of the smaller industries, which heretofore have been operated at loss and have been a drain on the Corporation's resources, have been disposed of on satisfactory terms, to in-dependent operators. Negotiations have been completed for the introduction of new industries to be established by parties with independent capital. The operations of the existing plants have been almost continuous; the reputation of the quality of rails has been maintained, and orders are on hand which will keep the steel plant fully occupied during the next six months, whilst the prospect

for future business is excellent.

The A.C. & H.B.R. Co. issued a prospectus in England early in July of £770,000 five per cent. first mortgage 50 year gold bonds, being the approximate equivalent as part of exchange of \$3,750,000, the balance of \$3,000,000, out of a total issue of \$6,750,000, having been taken for issue in France. The prospectus states that the bonds will be a specific first mortgage upon the company's railways terminals and docks, and a general floating charge upon the rest of the assets and undertaking, present and future, including the lands to which the company will become entitled from the Ontario Government.

The company is authorized to construct a line from Sault Ste. Marie, Ont., to the C.P.R., including a branch from Michipicoten Harbor to the main line, and from the C.P.R. north to James Bay, intersecting the National Transcontinental Ry. under construction, and the projected line of the Canadian Northern Ry. The Dominion has granted a cash subsidy of \$6,400 a mile for the 225 miles from Sault Ste. Marie to the C.P.R. main line, including the Michipicoten Branch. The Province of Ontario has granted about 1,665,000 acres in respect of the 225 miles. These lands will be granted in freehold, and carry all minerals and all timber free of all charges, except the pine, upon which stumpage charges are to be paid. 1,439,300 acres of this land grant have been selected already by the

the Government.

The railway is already in operation for some 80 miles. The company owns extensive terminals and deep-water docks at Sault Ste. Marie, fully equipped for the rapid loading and unloading of ore, coal, steel rails, lumber, etc., and also owns the harbor at Michipicoten. The company owns and operates on the Great Lakes a freight steamship line with a tonnage (including a steamboat under construction) of 15,600 tons.

company, and have been set aside by

Part of the proceeds of the bonds will be used to pay for \$3,000,000 bonds of the Lake Superior Corporation which have been cancelled, in order to absolutely free the Algoma Central Ry. Company from all encumbrances other than that of its own first mortgage bonds now being issued, and the balance of the proceeds, together with other available funds of the railway company, and the cash to be received by way of subsidies from the Dominion Government will be more than sufficient to cover the expenditure required for the completion and equipment of the road to the C.P.R. main line.

The net earnings from the 80 miles completed, and from the steamship line for the year to June 30, 1909, were £26,700. The net earnings of the 10 months of the present year show an increase of fully 50% over the same period last year. As soon as railway connection is made, the Algoma Steel Co. is prepared to take a minimum of 300,000 tons of iron ore per annum from the Magple mines, and the railway company will also get the whole freight on the shipments of iron ore from the Helen mine amounting to at least 200,000 tons a year, so that the railway is assured 500,000 tons of freight per annum from these two mines alone.

The estimated gross earnings of the line for the first year after its completion to the C.P.R., taken on a conservative estimate are £293,600 Less 70% operating expenses £205,520

Estimated total net earnings £88,080
Add estimated net earnings—steamship department £15,000

Total estimated net earnings £103,080

The amount required to pay the interest on the \$6.750,000 of the company's first mortgage bonds is £67,500. No account has been taken in the above figures of any profit which may be derived from the lands, through the sale of timber, ore. or of the lands themselves.

Information as to construction on the A.C. & H.B.R. will be found under the head of Railway Development, on another page.

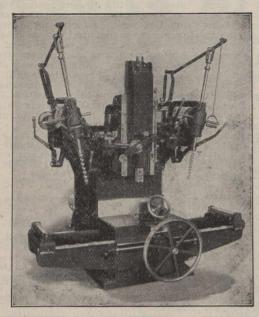
Ontario Railway and Municipal Board.

—The annual report for 1909 issued recently, shows that 261 applications were made of which 183 were in form, and 78 informal. Of the formal applications 171 were heard and disposed of and 12 were carried over into 1910. Of the informal applications some were settled by correspondence, and others disposed of without a hearing. In about 20 cases the parties were referred to the Board of Railway Commissioners as the matter to be disposed of came under the Dominion law. The report gives details of the orders made, and a good deal of information as to railway and municipal matters in the province, especially in reference to the municipal control of public utilities.

One of the very few houses that was left standing after the fire which practically wiped out Campbellton, N.B., July 11, was that of Superintendent Price of the Intercolonial Ry. I.C.R. station and other buildings were burned, and a large quantity of rolling stock destroyed, the loss being put at upwards of \$100,000.

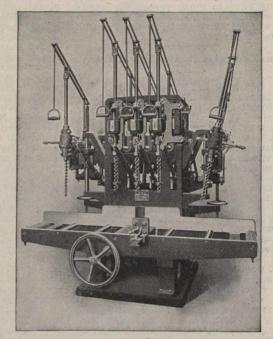
The report of the Ontario Department of Public Works. which has just been issued, covers the ten months ended Oct. 31, 1909. To be of service to the public these reports should be issued more promptly, or at any rate be made accessible at the time they are presented to the Legislature. The report states that 260.23 miles of new railway were opened for traffic in the province during the 10 months, and that there was then a total of 8,660.42 miles of railways in operation within the province.

During May, 25 employes were killed and 39 injured. in the course of their work on Canadian railways. Of the fatalities, eight were due to being run over, five to collisions, four to falls, three to being caught between cars, two each to explosions and to derailments, and one to falling material, while of the other accidents. 11 were due to collisions, six to being caught between cars, five each to being run over and to falls, four to derailments, three to falling material, two to explosions, and one each to machinery, to flying material and to being struck by an object in passing.

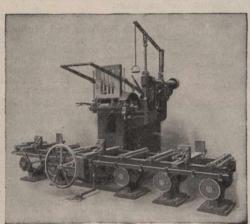


No. 225-Vertical Automatic Hollow Chisel Mortiser.

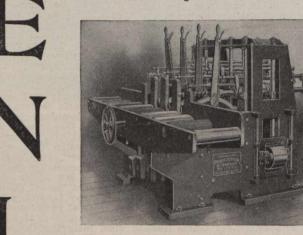




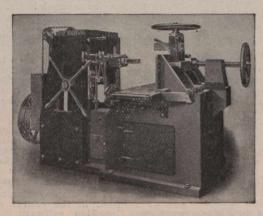
No. 327-Vertical Car Boring Machine with Universal Spindles



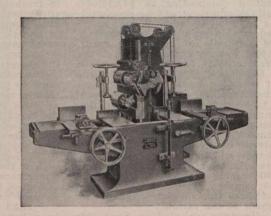
No. 512—Extra Range Automatic Car Gainer with Boring Attachment.



No. 306—Extra Range Horizontal Car Boring Machine.



No. 218—Extra Range Automatic Hollow Chisel Car Mortiser.



No. 525-Vertical Automatic Car Sill Tenoning Machine.

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RAILWAY DEVELOPMENT.

Projected Lines, Surveys, Construction, Betterments, Etc.

Alberta and Great Waterways Ry.— The Royal Commission investigating the circumstances surrounding the granting of the charter to this company practi-cally completed its work July 5. The report will be presented to the Legis-lature next session.

E. A. James, General Manager, stated in an interview July 6, that the capital received by the sale of the bonds was held in trust in the banks. The company would open negotiations with the new government as to the contract. He considered the project was a thoroughly

practicable one.

The Edmonton Bulletin states that the failure of the A. & G.W.R. Co. to meet the first instalment of interest on the the first instalment of interest on the bonds, due last week, eliminates the company from the project. The Province of Alberta had to meet the obligations and did so. This leaves the province with \$7,400,000 with which railway construction may be secured in what sections seem best. So far, the arrangement has cost the province \$55,-500. 500.

Algoma Central and Hudson's Bay Ry. Tenders were received to July 30 for 250,000 ties to be delivered on the main line between the crossing of the Mon-treal River and the Michipicoten River. Good progress is being made with the building of the connection between the building of the connection between the Michipicoten branch at Hawk Lake Jct, and Hobon, Ont., on the C.P.R. transcontinental line. The work has been pretty well opened up, clearing gangs are making good progress and contractors are constructing their camps at various points. It is hoped to have 1,000 men at work by Sept. 1.

work by Sept. 1

We are officially advised that 150,000 of these ties are to be used for the complet-ion of the main line, the contract for which has been let to the O'Boyle Bros. Construction Co., and is now under way. Track laying from the north and south ends was expected to be started before the end of July. From the south end track will be laid through to the crossing of the Patchawang River between which of the Batchewana River, between which point and the Montreal River there are several structures to be built. The object is to push through to the Montreal River in order that the construction of that bridge may be got under way. Meanwhile, the track will be going down from the north, and it is hoped to have it reach the Montreal River by the time the bridge is completed, so that there will be no delay in construction. The other 100,000 ties will be used for the Hawk Lake-Hobon section. (July, pg.

British Columbia and Alaska Ry.—A recent dispatch from Victoria, B.C., stated L. M. Rice, of Seattle, Wash., had returned from completing a reconnaiss-ance survey for this company for a line from near Vancouver through Central British Columbia. (July, pg. 547).

Comox Ry. and Logging Co.-The plans for the route of this projected railway from Comox to Campbell River, railway from Comox to Campbell River, Vancouver Island, were approved by the B.C. Government July 4. Part of the route belongs to the Comox and Campbell Lake Tramway Co., the rights of which the C.R. & L. Co. was authorized by its act of incorporation to acquire. (June, pg. 447).

Ha Ha Bay Ry.-We are advised that grading on the first 20 miles is expected to be completed by the middle of August, and the whole line from St. Alphonse to St. Jonquieres, 24 miles, by Sept. 15. It is expected to begin track laying by Aug. 1, and to have the line open for traffic Nov.

We were advised July 11 that grading is expected to be completed at an early date, and that three miles of track have date, and that three lines of track have been laid. A cargo of steel rails was ex-pected to be delivered by the end of July, and it is hoped to have the track laying on the whole line completed by

Halifax and Eastern Ry .- The provisions of the charter, issued under the terms of sec. 13. chap. 1, of the Nova Scotia Statutes of 1906, incorporating a company with this title, have been published in N.S. Royal Gazette. The incorporation of the company with this title, have been published in N.S. Royal Gazette. porators are J. B.Bartram, Toronto; T. B. Fogg, Toledo, Ohio; G. H. Raw, S. Hirsch, London, Eng.; and the company is given power to build a line from the Intercolonial Ry. at Dartmouth to Guysboro, and Mulgrave; from New gaw on the Intercolnial Ry. to the Dart-mouth-Guysboro line; a branch from mouth-Guysboro line; a branch from near Cross Roads, Country Harbor to the deep waters of Country Harbor, and such other branches and extensions as the Lieutenant-Governor-in-Council may approve, and to own any line of railway which may be acquired under the provisions of the charter. The company is authorized to build telegraph and telehone lines, to own steam and other vesto carry on an express and to contract with other railway and steamboat companies; and also to en-gage in other business as connected with the development of the country through which the line will pass. The company is granted a free right-of-way over Crown lands, and to take from Crown lands adjacent to the line any materials available and required for construction; has power to issue bonds for \$20,000 a mile; is bound to grant traffic arrangements to the Government and other lines connecting with it; and the lines of the comting with it; and the lines of the company, right-of-way, stations and other buildings are to be "forever free from taxation by any city, town or municipality, corporation or other similar authority, for any purposes whatsoever."

The contract calls for a start being made on construction by Sept. 1, and for the completion of the lines by Sept. 1, 1913. The main line from Daytmouth to

1913. The main line from Dartmouth to Guysboro will be 164 miles long; the branch to New Glasgow, 40 miles, and that to Country Harbor 12 miles, a total of 216 miles. The construction is to be carried on under Government supervision, and the company is to pay for patrols, appointed by the Government for fire protection during construction. The contract gives the company permission to build a bridge across the narrows of Halifax harbor, so as to enable it to run its trains into Halifax.

The Provincial Legislature has granted a subsidy of \$6.400 a mile, and there is also available a Dominion subsidy of \$3,200 a mile, increasing to \$6,400 according to the cost of construction. company has deposited \$50,000 as secur-The contract was signed on behalf of the company by J. B. Bartram, President; and G. E. Boak, Halifax, Sec-retary pro tem. The other officers and retary pro tem. The other officers and directors are: Vice President and General Manager, T. B. Fogg; S. Hirsch, and Duncan Cameron of Halifax, N.S. It is reported that a contract has been entered into with a construction company in London, Eng., for the building of the line, and that the company's representatives will, as soon as the location plans have been approved by the Government, proceed to let sub-contracts.

We were officially advised July 16 that sub-contracts are not likely to be let until late next autumn or the spring of

1911.

At a meeting of the Dartmouth town council, July 2, the question of locating the company's terminals in that town was discussed with D. Cameron and G. E The latter informed that council

that a free right-of-way had been secured in Halifax and Pictou counties, in addition to cash bonuses of \$12,000. It was proposed to locate the company's terminals and machine shops in Dart-mouth, and he read a letter from T. B. Fogg, V.P. and G.M., as to the land requirements. An area of 20 acres was required having a water frontage of from 1,200 to 1,500 ft.; and a site for a freight and passenger station situated near the ferry. Mr. Cameron said the company asked for a bonus of \$50,000 preferably asked for a bonus of \$50,000 preferably to providing free sites. The company's terminals in Dartmouth would be used by the Intercolonial Ry., and it would use that line to get out of Dartmouth. The Dominion of Canada Trust Co. of London, Eng., which has been recently formed, is interested in the placing of

the company's securities on the market. C. T. Part, (press reports, say he is director of Parts of Par ector of Barclay & Co., bankers, London, but his name does not appear in the published list of directors) and S. Hirsch, sailed from Rimouski, June 30, after completing their business with the

Government.

The same interests have acquired the Dickie lumber areas in Nova Scotia, covering altogether 464,000 acres, for the opening up of which the railway is to be constructed. The lumbering interests will be operated by the Eastern Canada Lumber Co. (July, pg. 547)

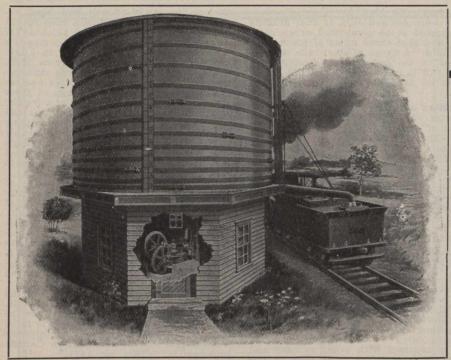
Howe Sound and Northern meeting of shareholders was held in Vancouver July 4, to pass a resolution authorizing the directors to borrow \$4,200,000 at 4% and to issue debentures secured upon the assets, to be repaid in 30 years. The proceeds will be used for construction. (July, pg., 547).

used for construction. (July, pg. 547).

Hudson Bay and Pacific Ry.—A prospectus of the H.B. and P. Ry. and Development Co., has been issued from the office, 56 Moorgate St., London, Eng., signed by J. E. F. Greville, (Chair-Eng., signed by J. E. F. Grevine, Collar, man); V. Williams, E. T. Pearce, J. Kerry, Colonel Jos. Harris, C.E.; J. Weston, of London. Eng., and C. Mannesmann, Ramscheld, Germany. The capimann, Ramscheld, Germany. The capital is £150,000 in £1 shares, which are being offered at a premium. It is stated that the company has secured the H.B. and P. Ry. charter subject to the reservation of a 44% interest. It is also stated that the H.B. and P. Ry. Co. which has a share capital of \$8,000,000, is authorized to issue 4% gold bonds, guaranteed by the Dominion both as to principal by the Dominion, both as to principal and interest, to the amount of \$20,000 a mile; that it is entitled to a grant of 5,000 acres of land a mile, and to subsidies estimated at \$6,000 a mile. The length of the lines authorized is 1,800 miles, and the prospectus states that the estimated cost of construction will be \$15,000 a mile. The profits on the construction of the line are estimated at £14,560,000, of which the Development Co. is to receive 56% or £8,209,600, will, it is said, be from Fort Churchill via Pas Mission to Prince Albert, Sask.. and thence to Edmonton, Alta., 700 miles, and on this section the prosecute says the 55% of profit compares to pectus says the 56% of profit coming to the Development Co. will be £3,010,000 or equal to a return of £20 per £1 share. further statement is to the effect that A further statement is to the effect that "the financial requirements for the construction of the line have been arranged,

and that considerable profits should be divided as the line is built."

Under the act incorporating the H.B. and P. Ry. Co., as amended it has power to issue \$8,000.000 of common stock, and bonds for \$20,000 a mile of line, but the Dominion Profilement but the Dominion Parliament has not yet authorized the Government to affix any guarantee to the bonds. The Dom-Parliament has not authorized the granting of any cash subsidy for the construction of such a line, and the only land grant authorized for such a line is



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that made by sec. 7 of the Dominion that made by sec. 7 of the Dominion Lands Amendment Act, chap. 25, of the first session of 1884. This section authorized the Government to grant 6,400 miles of land for each mile of a railway in Manitoba, and 12,800 acres of land for each mile from the northern boundary of Manitoba to Hudson Bay, in aid of the construction of a line from the C.P.R. to Hudson Bay. No company in particular being named. (July, pg. 547). (July, pg. 547).

Intercolonial Ry.—The exact route of the deviation of the I.C.R. into Chatham, N.B., was finally decided upon during a recent visit of the Minister of Railways. The contractors, Morrison & Clarke, had 60 men working on the route near Nelson, July 1, and expected to have gangs at work at both ends of the deviation two weeks thereafter. (July, pg. 549).

Kettle Valley Lines .- The arbitrators appointed to fix the value of the grade built between Midway and Rock Creek, B.C., by the old Midway and Vernon Ry., which is to be taken over by the Kettle Valley Lines as a part of the new line to the Fraser River, have been at work since the end of June. The board consists of R. F. Green, Victoria, board consists of R. F. Green, Victoria, B.C., appointed by the Provincial Government; L. M. Rice, Seattle, Wash., appointed by the K.V. Lines, and Judge Form, Nelson, B.C., chairman. J. J. Warren, of Toronto, President, K.V.L., A. McCulloch, and H. B. Smith, the two letter being arginages, attended at the A. McCulloch, and H. B. Smith, the two latter being engineers, attended at the inspection of the grades. The amount fixed by the arbitrators will be paid by the K.V.L. to the creditors of the old Midway and Vernon Ry., who, to quote sec. 3 of the act. "did work or supplied materials including goods and marchan. sec. 3 of the act. "did work or supplied materials, including goods and merchandise in connection with the actual building of said grade." This excludes from the list of creditors to be paid those who did survey work, or provided supplies for the survey camps between Rock Creek and Vernor. Creek and Vernon.

J. J. Warren. President, who is the Manager of the Trusts and Guarantee Co. in Toronto, stated in a recent inter-Co. in Toronto, stated in a recent interview in Vancouver, that construction on the extensions would be commenced early in July, and that it was expected to have the line completed from Midway to Merritt within three years. He made a further statement to the Vernon made a further statement to the Vernon town council, June 25, to the effect that a construction gang would be set to work in the city as soon as arrangements could be made for lake shore frontage and a right of way. The right of way, and a site for a yard and roundhouse would be purchased, but he asked the council to provide 1,100 ft. of lake shore frontage for a station. The company proposed to build a wharf 900 ft. long there, at a cost of about \$50,000. The principal division point on the line would be at Penticton.

Arrangements are being made starting construction on the line, and contractor's outfits were being unloaded at Midway, July 1. The work between Midway and Vernon will be heavy, as the route traverses two important summits, the Kettle Bivor Okanama, divide the route traverses two important summits, the Kettle River-Okanagan divide, and that of the Okanagan-Coldwater. In the case of the former the maximum gradient of 1.5% is encountered for a short distance. and in the latter the maximum gradient is 1%. The alignment is generally satisfactory. The Dominion Minister of Railways has before him an application for the approval of the route from Coldwater, across the of the route from Coldwater, across the Hope Mountains to Ruby Creek. This shows a line following the Coquinalla River to Hope and thence across the Fraser River, following the north bank from Hópe to Ruby Creek, where a junction is effected with the C.P.R. A contract has been entered into between the company and the Dominion

Government under the act granting subsidies to certain railways, for building a line from near Grand Forks for 50 miles up the north fork and the east or west fork of the north fork of the Kettle

River.

A Vancouver press report,

A vancouver press report,

A be July A vancouver press report, July states that a contract has been let to Macdonnell, Gzowski & Co., Vancouver, for building 30 miles of line from Merritt, a station on the C.P.R. line between Spences Bridge and Nicola, and the headquarters of the Coldwater River. The contractor's plant was reported in process of delivery, and a start was said to have been made on the work July 9. The contract with the British Columbia Government called for work to be started on the line by July 10. This 30 miles of line will carry the line to the summit between the Coldwater and the Coqui-halla rivers. Eastward from this point the line will be built to Penticton, and at Rock Creek. 10 miles north-east of Midway, it will join on to the route of the old Midway and Vernon Ry., which will be utilized to Midway, where connection will be made with the existing Kettle Valley Lines. (July, pg. 549).

Manitoulin and North Shore Ry.— Tenders were received to July 23, for the construction to subgrade of a section of this line from the north side of Goat Island channel, near Little Current, northerly to the White Fish River, about 18 miles. This will practically complete the portion of the line between Sudbury and the lake front, opposite to Little Current. (June, pg. 451).

Matagami River Line.—An application has been made to the Ontario Government by private interests for permission to build a line from mileage 229 on the Temiskaming and Northern Onon the Temiskaming and Northern Ontario Ry., to the Matagami River. Those interested in the application are:—A. Ferland. C. Richardson, R. W. Gordon, A. E. Burdette, W. C. Chambers of Haileybury, Ont., all of whom are interested in the development of what is known as the Porcupine country.

Nanaimo to Wellington, etc.—Application will be made to the British Columbia Legislature to incorporate a company to build a railway to be operated by steam. electricity or any other motive power, from Nanaimo, northwesterly to Wellington, B.C., six miles, and from Nanaimo southerly to Ladysmith, 20 miles, with branch lines not to exceed 10 miles in any one instance. Taylor and Harvey, Vancouver, B.C., are solicitors for applicants.

The Northern New Brunswick and The Northern New Brunswick and Seaboard Ry. from Black's Cut, on the Intercolonial Ry. to the iron ore mines at the confluence of the Austin brook with the Nipisiguit River, Northumberland County, N.B., has been practically completed, some ballasting being all that is required to permit it being opened for traffic which it is expected to be by for traffic, which it is expected to be by Aug. 15. The contractors were Wheaton Bros., and J. J. Taylor was engineer in charge of construction. J. J. Drummond, E. McDougal and W. F. C. Parsons, of the Canada Iron Corporation, which owns the mines and railway, recently made a visit of inspection to the prop-The ore dock at Newcastle, which is being built by Reid and Archibald, is expected to be ready for operation Sept.

1. The spur line from the Intercolonial Ry. to the ore dock at Newcastle has been completed. (July, pg. 549.)

Ottawa, Rideau and Brockville Ry.-Recent press reports state that the work of building this line is to be started near Oshawa in the fall, and that the surveys are being made. (May, pg. 353.)

Pincher Creek, Alta.—The Pincher Creek district of Southern Alberta is proving an attractive field for the railway promoter. At present Dominion charters for building lines through it

are held by the following companies:—Alberta, Peace River and Eastern Ry.; British Columbia and Manitoba Ry.; Canadian Western Ry., Northern Empire Ry., and Southern Central Pacific Ry., and in addition other charters have been granted by the Provincial Legis-lature, but how far they are controlled by those interested in the above men-

According to press reports another company is to be incorporated, composed of St. Paul, Minn., men, who are reported to have purchased a large coal and iron area in the vicinity of Cowley. The railway which they propose to construct for the development of their property, as well as for general traffic, is said to have been located from Butte, Mont., across the Milk River towards Pincher, following the Old Man River Pincher, following the Old Man River into Livingstone range, thence running west paralleling the iron and coal deposits north of Cowley. It will cross the C.P.R. Calgary and McLeod branch near Minnapore and have its terminus in South Calgary.

Pine Pass Ry .- Application was made July 6, to the Department of Railways for the approval of the route of this pro-jected railway. The map shows a route from Edmonton to Pearl River Landing, thence up Pine River to its headwaters in Pine Pass; down the Misinchinchi River to the crossing of the Parsnip at or near Trout Lake, and on to the Pack River; following up Pack River to Mc-Leod Lake; along Lake River to Mc-Leod Lake; along Lake River to Carp Lake; westerly to the Swamp River, a tributary of the Little Salmon; follow-ing the Little Salmon to its mouth, about 22 miles above Fort George; thence crossing the Fraser River on to the metals of the G.T.P. Ry. and down the Fraser to Fort George. (May, pg. above

Portland Canal Short Line Ry.—We are advised that if the proposed extension, referred to in our last issue, is built it will have to go through Alaska for about 11 miles, and about 5 miles further into British Columbia before the Salmon River mining camp is reached. It has not been decided whether the extension will be built at all; everything depends on how the mines, which are in an undeveloped state at present, turn

Contractors' plant and camp supplies, with 100 men left Victoria, for Stewart, B.C., June 30. in connection with the construction of this line from Stewart, at the head of the Portland Canal. The manager of the Westholme Lumber Co., which has the contract, is quoted as saying that as many men as can be obtained will be set to work so as to have the line completed with all the dispatch possible. S. Cameron, Prince Rupert, B.C., has been given a sub-contract on the line.

The Provincial Minister of Public Works on his return from a visit recently made to Stewart, said it was the distributing centre for a large area of mining country. The Government had authorized the expenditure manager of the Westholme Lumber Co.,

area of mining country. The Government had authorized the expenditure of \$12,500 for roadmaking in the district, and he was prepared to recommend the granting of \$20,000 for sanitary improvements in Stewart, if the otitizens raised \$10,000 citizens raised \$10,000.

A dispatch from Stewart, B.C., July 7. says:-Big construction camps and supsays:—Big construction camps and supply depots have been established at Stewart, and at Bitter Creek and substantial permanent camp buildings erected at the former. A large force is busily engaged in clearing right of way and carrying in supplies, a freight depot for the realways have perceived on the for the railway has been erected on the site chosen for the station. Railway supplies are being stored there for the construction period. Pile-driving is being pushed for the wharf and the long approach across the mud flats, and very

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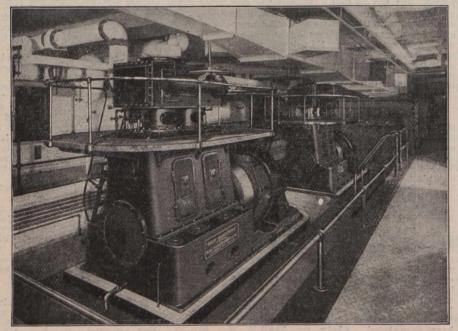
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soon grading will be going ahead on the line as far at least as Bitter Creek. The work is being done under sub-contract by the Westholme Lumber Co., Saul Cameron being in charge. Before the season closes the first 10 miles of the line should be in operation.

Joliette and Lake Manuan Ry.—We were advised July 15 that a contract for building this line has been let to the Enterprise Construction Co. of New York, of which H. O. Hener of that city is President; J. M. Patton, Notre Dame St., Joliette, Que., is Chief Engineer for the railway. The company is arranging to place an issue of bonds upon the market in London, Eng.

Port Moody, Indian River and Northern Ry.—This line which is being built in British Columbia, starts at the western boundary of district lot 256, and skirts the shore line around the head of the inlet and connects with the C.P.R. main line at the Emerson Lumber Co.'s mill, a distance of about four miles. The line is to be completed, according to an agreement, with the property owners, by Sept. 1. The line, is said to be an expensive one to construct, and a great deal of secreey is being maintained as to the purpose for which it is being built, and by what company it will be operated. One report states that it will be operated by the C.P.R., and that grain elevators will be erected on the waterfront for transferring grain from the trains to ocean going vessels. (July, pg. 549).

Prince Edward Island Ry.—In an interview at Charlottetown, P.E.I., during his recent inspection trip, the Deputy Minister of Railways said it was the first time he had come personally in contact with the question of operating a car ferry across the strait to the mainland, although he had heard about if in Ottawa. While not going into the merits or demerits of the proposition he would state that its adoption would mean the actual rebuilding of the whole railway on the island as the gauge would have to be changed from narrow to standard. (June, pg. 451).

Quebec Central Ry.—J. H. Walsh, General Manager, was in Quebec July 9, conferring with the mayor with regard to sites for station, freight sheds, etc., which it is the purpose of the company to erect as soon as an entrance can be secured into the city over the Quebec bridge. In an interview, Mr. Walsh stated that the President and some of the directors were coming from England to make an inspection of the line. He expected that as a result of the visit, arrangements would be completed for supplying capital to extend the line to Quebec, and to build some branches. (Feb., pg. 111).

Reid Newfoundland Co.—W. D. Reid, President, in an interview July 4, said that grading on the new Bonavista branch was being proceeded with at a satisfactory rate, and that track had been laid 28 miles. Snow fences and station buildings were being put up as construction proceeded, and rolling stock supplied, so that when the last mile of track was laid the branch would be fully equipped and ready for operation.

A press report states that the company is planning to erect a foundry and machine shop in connection with its dry-docks and works at St. John's, Nfld. The new shops will be built to carry out the agreement made last year with the Government, that cars and locomotives for the line be built in Newfoundland.

St. John Valley Ry.—E. A. Stone, head of the New Brunswick School of Engineering, has been appointed chief of a staff of engineers sent out by the Provincial Government to make a sur-

vey for an alternative route between Walsford and the city of St. John. The Chief Engineer for the whole of the survey work is D. F. Maxwell. (July, pg. 549).

Temagami and Ontario Northern Ry.—
An action has been entered in the Ontario courts by the Sovereign Bank against A. B. Craig of London to recover \$9,575.56 on rates made by the company and guaranteed by Craig. The company has a Dominion charter having been incorporated in 1898 as the Temagami Ry, and has power to build a line from Sturgeon Falls or Verner station on the C.P.R. northerly. Extensions of time were granted for construction in 1900, 1902 and 1904. In 1905 the company's title was changed to the Temagami and Ontario Northern Ry., and construction of a line from Sturgeon Falls southwesterly direction to the mouth of French River near Byng Inlet, Ont., was authorized. No construction has been done. (Mar., 1905, pg. 95).

Temiskaming and Northern Ontario Ry.—The new station at Cobalt has been completed, and the staff took possession of the offices July 1.

It is said that next session of the Ontario Legislature the Commissioners will apply for power to reconstruct the line from North Bay to Matheson, cutting out curves, reducing gradients, and bringing that portion of the line up to the standard of construction adopted between Matheson and Cochrane.

The Commission's engineers are engaged in making surveys for a line to the Porcupine gold fields, but according to a recent statement by the Chairman this is only in line with the general policy, to be ready for anything. He also stated that the mining camps at Gowganda and the Porcupine had yet to prove their worth, and until they did so, the Commissioners would not do anything in the way of building the lines asked for, either now or in the near future.

It is proposed to build a retaining wall along the bluff at Lang St., Cobalt, and Chief Engineer Clement was there July 8, in consultation with the mayor on the subject. (June, pg. 453.)

Toronto, Hamilton and Buffalo Ry.—
The Hamilton city council has under consideration the company's application for permission to build three branch lines from near Grant Ave. to east of Sherman Ave., to which there is considerable opposition on the part of the citizens in the neighborhood affected. The council desires to be fully informed as to the company's intentions before taking any definite action. The question of what the council will do when the application comes up for consideration before the Board of Railway Commissioners is also under consideration. (July, pg. 551).

Western Canada Power Co.—The railway which the company is building starts from Ruskin, B.C., on the C.P.R. transcontinental line, and runs northerly to the company's power plant on Stave River, about six miles. Construction is being proceeding with, and it is expected to be completed by the middle of Sept. The line is to be used at present for hauling to the power house the heavy machinery, the contracts for which have been let. Steam will be used at first, a locomotive and some cars having been purchased. Later on electricity will be used for the operation of the railway. (July, pg. 551).

Passenger Agent,—Here are some post card views along our line, perhaps you would like them.

Traveller.—No. thank you, I rode over your line last week, and have views of my own.

Transportation in Northern Alberta

The Athabaska Landing Board of Trade has issued a pamphlet from which the following extracts are taken: "As a transhipping town no town of

"As a transhipping town no town of the same size shows greater activity than Athabaska Landing, and few towns larger. To find a greater distributing centre one must turn to the cities. The routes, both overland and water, to the northern districts branch out, from Athabaska Landing. In summer the traffic to and from the north is carried on by flat boats, wagons and steamers operating from this point, in winter by sleighs.

"During the entire summer about 400 men are employed in the transportation business conducted from this point, and about the same number are employed during the winter. For 26 years this has been the undisputed distributing point for the entire north, including the Mackenzie River district on the west and the Mackenzie River district to the north. This point has been most peculiarly favored in its natural position to command northern traffic. The railways are now turning towards the north, and Athabaska Landing is destined to become the distributing point by rail for the north in the same manner as it has been over land and water routes in the past. The Canadian Northern Ry. is now engaged in construction work on its lines to this point from the south and also from the east.

"The building of flat boats for transhipping supplies to the northern districts has been a great industry of Athabaska Landing for over 25 years. As the cargoes coming out of the north are small in bulk compared to those taken in, but few boats are brought back to this place. This necessitates the building of new boats annually. The average number of boats built annually is about 75, but owing to the great attention the north is receiving at present this year's output will number nearly 100. These boats are all built from native lumber and afford employment to a large number of men. In addition to the flatboats that are yearly constructed here the Northern Transportation Co. has made Athabaska Landing its headquarters, and its three steamboats were all constructed here. Its largest steamboat which operates on the Athabaska River is 120 ft. long. Last year the company constructed in its yard a small steamboat for use during the period of low water in the Athabaska River. The entire fittings of this boat, except the engines, were made here. The 40 h.p. water tube boiler was built by the company's local engineers."

Railway Lands Patented.—Letters patent were issued during April and May, covering railway lands in Manitoba, Saskatchewan, Alberta and British Columbia, as follows:—

The Ruskin Logging Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of \$100,000, to carry on a general lumber and logging business, and in connection therewith to build and operate single or double track, or aerial or other tramways, with the necessary side tracks, turn-outs, etc., and to own and operate steam and other vessels for the carriage of passengers and merchandise.



CROSSEN CAR MFG. COMPANY

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ROLLING STOCK

Passenger, Freight and Electric Railway Ruggles' Rotary Snow Plows

CAR CASTINGS, FORGINGS AND REPAIR PARTS

The National Transcontinental Railway Shops near Winnipeg.

Our issue of August, 1909, contained some preliminary particulars of the shops, near Winnipeg, and also an isometric view of them. Now that their isometric view of them. construction is well advanced the fol-lowing complete description will un-doubtedly prove of great interest:

doubtedly prove of great interest:

The locomotive and car shops now under construction about six miles east of Winnipeg on the National Transcontinental Ry. are intended to look after the general repairs for 1,800 miles of operating line. The plans developed with this capacity in view, and the layout were approved and detailed plans worked out for the various buildings constituting the plant. The site chosen for the shops is on the prairie, and in order to be above all possibility of flooding in the spring freshets, the floor level of the shops was raised about 4 ft. above the existing prairie level by a heavy gravel fill over the whole site occupied by the buildings.

whole site occupied by the buildings.

The buildings were grouped as closely as possible in order that the distances between them might be short; as during the winter the cold makes communication difficult if the buildings are much spread out. The various buildings are arranged about a midway, which runs north and south across the property, and are served by a series of standard gauge service tracks branching off from the are served by a series of standard gauge service tracks branching off from the yard tracks to the south. Communica-tions between the buildings is obtained by means of narrow gauge industrial by means of narrow gauge industrial tracks and the overhead travelling crane which runs the whole length of the midthus serving the various shops. The way, thus serving the various shops. The buildings constituting the locomotive shop plant are located on each side of the midway and south of the through track, passing north of the power house, while the car shop plant is north of that line. The gray iron foundry and forget while the car shop plant is north of that line. The grey iron foundry and forge shops, of course, serve both branches of the work. The power house is located centrally, thus doing away with long runs of piping and wiring feeders. The whole plant is laid out so that each building may be extended 100% in the future when increased space is required.

future when increased space is required.

The buildings, with the exception of the storehouse, oil house and stores platform are of steel construction with self-supporting steel frames, concrete foundations and walls up to the windows. The ations and walls up to the windows. The balance of the superstructure masonry is balance of the superstructure brick, and it is carried up into a parapet wall, all around the building, capped with a concrete coping. The roof drainwith a concrete coping. age is carried down inside the buildings from receiving hoppers in the roof and through running traps to the sewers. The roofing on all the large buildings is a built up roofing composed of felt and asphalt covered with gravel. All window glass throughout the plant is ½" thick ribbed glass and the skylights are glazed with ¾" wire glass of best quality. The skylights are carried on steel ribs with rolled copper sheathing to carry the glass. Copper is used throughout for all flashing gutters and ventilators. The shops when completed, will have a total floor space of a little over 17 acres. from receiving hoppers in the roof and over 17 acres.

The system of general interior illumination is to be on the mercury lamp principle, with lamps and reflectors hung high in the shops. This form of illumination has been found most satisfactory, giving an easy, even light and no sharp shadows. There will be plug receptacles in all buildings at frequent intervals in order that lamps on cables may be carried to any definite point or into boilers, etc. Ample window areas and wide skylights have been laid out in order to obtain the maximum of illumination, and as the interiors of the shops are all painted white, the light is exceptionally good. The system of general interior illum-

High and low pressure steam, water, compressed air and drinking water are distributed throughout the various buildings, with numerous outlets. Fuel oil is distributed under pressure from the storage tanks to the furnaces in the boilshops, while an accumulator gives the necessary hydraulic pressure for operating the various hydraulic machines.

The electric travelling cranes through-The electric travelling cranes throughout the plant are equipped with alternating current motors and are operated directly from the three phase circuits from the power house.

The piping distribution system is carried up and down the midway from the power house in a tunnel of sufficient circuits to provide the power to provide the power to provide the provider than the provid

size to permit of passage alongside the pipes, and branches to the various buildings are run from this tunnel in tile conduit packed with asbestos sponge. On entering the building the piping is carried on the trusses and steel work of the shop. The shops are protected from fire by an extensive system of yard piping and fire hydrants, with hose houses at the shop. convenient spots.

LOCOMOTIVE DEPARTMENT.

THE LOCOMOTIVE, MACHINE AND ERECTING SHOP consits of three bays 70, 60 and 40 ft. wide respectively and 613 ft. long. The 70 ft. bay has a height from floor bottom chord of truss of 50 ft. and is laid out with 25 engine pits arranged across the house. There are two entrance tracks for bringing in locomotives and the 120 ton crane which spans the 70 ft. bay, lifts the locomotive and carries up or down the shop to whichever pit is ready for it. Under the 120 ton crane, is a 10 ton crane spanning the bay for general work and handling material. Each pit is furnished with plug connections for electric light and valves for tions for electric light and valves for steam, water and air, and there is a wall bracket crane on the column between al-ternate pits. The 60 ft. bay is used for ternate pits. The 60 ft. bay is used for the heavy individual motor driven ma-chinery and is spanned by two ten ton cranes for handling material. The lye vat and the fire furnace and floor are also in this bay. The last 72 ft. of this bay is used as a flue shop and is equipped with all the necessary furnaces, cleaners, etc., for this work.

The 40 ft. bay is devoted to the lighter machine work on bolts, rods, motion parts and general departments, and the apparatus is grouped and driven from line shafts, each group being handled by line shafts, each group being handled by a single motor. At the east end of this bay is the rivetting tower equipped with a 20 ton crane for handling boilers. Overhead in the 40 ft. bay is a balcony running the whole length of the shop and on it are located the indirect heating plants, locker rooms, lavatories, tin shop and light repair and brass departments.

The building is heated by indirect radiation, exhaust steam being furnished from the power house to the heating coils and the air drawn through these coils is driven by fans through the underground concrete ducts and delivered into the building at floor level through outlets along both walls, under the windows.

A 3 in. wooden floor spiked to sleepers bedded in bituminous concrete is used throughout the shop. The balcony floor is of concrete. The compressed air for is of concrete. The compressed air for this shop is furnished by two motor driven air compressors, thus making this shop independent of the central plant air compressor in the power house. Stand-by connections are made with the general air distribution in case of emergency. Across the end, and forming part of the same building, is the

BOILER AND TANK SHOP, which consists of four bays, 60, 50, 30 and 65 ft. respectively, 180 ft. long and 36 ft. from floor to bottom chord of truss. The 60 ft. bay is for general boiler work and

is served by a 30 ton travelling crane. There is an inspection pit at the north There is an inspection pit at the north end of the bay for testing purposes. The 50 ft. bay is devoted to heavy machinery, both individual motor driven and group driven, hydraulic flanging press, etc., and is spanned by a 10 ton crane for handling material. The 30 ft. bay is used for light group driven machinery, and over 100 ft. of it is a balcony on which is carried the indirect heating apwhich is carried the indirect heating apparatus for this building, also the locker rooms and lavatories. The balance of the bay is served by a 5 ton electric travelling crane. The 65 ft. bay is laid out with tracks for accommodating tenders and has a capacity for 9 tanks. A 20 ton crane spans this bay and handles the various materials.

This building also is heated by indirect radiation, a system of ducts and outlets similar to those in the locomotive shop being used. A three inch wood floor also of similar construction is used throughout the shop. An individual motor driven air compressor is installed in this shop for supplying the necessary compressed air for use with the various pneumatic tools. Standby connection is made with the locomotive shop pipe line. The motor driven hydraulic pumps and accumulator for supplying hydraulic pressure for the plant are located in the

north end of this shop.

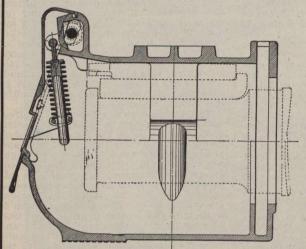
THE FORGE SHOP is 260 ft. by 100 ft., spanned by a single truss giving clear space for the location of equipment. Most cranes with jibs swinging from furnaces to hammers handle the heavy materials, while a line of double forges along the south side of the building look after the lighter work. The spring department is located in the southwest end of the shop and is equipped to look after the spring work for both locomotive and car departments. This apparatus is car departments. This apparatus is driven from line shafting driven by three 40 h.p. motors carried on wall brackets and is arranged with ample floor space close by for storage of raw and finished material. A motor driven finished material. A motor driven blower furnishes the necessary blast for the furnaces through underground and overhead piping. The steam to the ham-mers and exhaust return the oil, and hydraulic piping are carried in concrete ducts through the shop and to the various machines. The building is heated by indirect radiation from coils along the walls under the windows. The locker room and lavatory are in a small twoannex on the south side of the building.

THE FORGE STORES AND SCRAP BINS are close by the forge snop in a frame structure 30 by 220 ft. on light concrete foundations. The east 100 ft. is built as a roofed platform with the floor 4 ft. above grade for handling material conveniently to cars. This platform is divided into bins for sorting and storage of scrap. The western portion is completely enclosed with plank lining inside and drop siding outside and siding outside and siding outside and siding siding side and siding side and siding side and siding side a side and drop siding outside, and forms storage for coke, coal and iron stock. The iron stockroom is arranged with an extensive rack system for storing the different stock sizes for use in the forge shop. The coal and coke storage bins are arranged with roof hatches, in order that cars may be unloaded by a clam shell and crane from car and the coal and coke dropped through the roof. dustrial tracks are laid out so that the materials and supplies can be run into the forge shop on small cars.

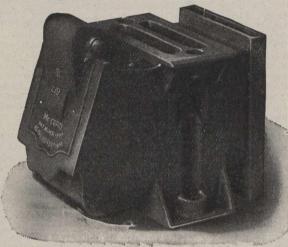
THE FROG AND TRACK SHOP was laid out with the intention of looking after all repairs to frogs, switches, interlocking plants, etc., and is 60 by 100 ft. and 24 ft. from floor to truss. The shop is spanned by a 10 ton electric travelling crane and is equipped with machinery for handling the above class of work. Saws, light hammers, drills, planers, etc., make up most of the equipment, while a couple of

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groups of small machines driven from line shafts look after the lighter rod and bolt work. The lavatory and locker room is located in the southeast corner of the building, being surrounded by a cement wall on expanded metal 8 ft. high, thus allowing the crane to pass over it. The shop floor is 3 in. wood over it. The shop floor is 3 in. wood spiked to sleepers, bedded in bituminous concrete. Direct radiation by means of coils along the walls, is used to heat this building owing to its comparatively small size. Close to this shop is the

CRUDE OIL STORAGE, a concrete building, 25 by 60 ft. The building is mostly underground, the floor being 8 ft. below grade, the side walls only projecting 2'6' above ground. A concrete roof carried on steel beams closes in the building, making it fireproof in every way.

Inside, on concrete foundations, are

four iron storage tanks each with a capacity of about 8,000 gallons of crude oil. Compressed air connections are made to these tanks, and the oil is forced out and distributed to the various buildings

The tanks are arranged so that the pressure can be cut off and the tanks filled by gravity from tank cars standing on sidings alongside the building. Piping connections to the outside of the building. building, fitted with lock-up valves being supplied for this purpose.

THE STORE HOUSE, which is across the midway from the locomotive erecting shop, consists of a large reinforced concrete platform 4 ft. above grade in order to bring it to car platform level for handling supplies from the storehouse to the various buildings. On the platform is a brick building 60 by 260 ft. with reinforced corrects inforced concrete roof carried on concrete posts. The front portion of this building is fitted up for offices for the store keeper and clerks and has a fire-proof vault. The balance of the buildis equipped with an extensive system of shelving, racks, reels, etc., suitable for arranging the varied stock of materials which the store house contains. Side doors along both sides of the building give ready access to the interior from the loading platforms. The building is lighted with incandescent lamps and is heated by a system of direct radiation coils. office portion of the building has ample flooring throughout and the balance has a cement finished top of the reinforced concrete the same as the rest of the platform. From the west end of the store house platform, a connecting platform at the same level and also of reinforced concrete joins the store house platform to the oil house platform 100

ft. away.
THE OIL HOUSE consists of a platform, 50 by 70 ft., rising 4 ft. above grade, and of similar construction to the store house platform. In this case there is a basement below the platform with a head-room of 10 ft. In the basement, carroom of 10 ft. In the basement, car-ried on concrete foundations, are the 9 storage tanks for holding the various various kinds of oil in stock. An addivarious kinds of oil in scotk.

tional tank for holding gasolene is buried
outside the building with a pump connection into the building. The tanks are nection into the building. The tanks are filled either by gravity from tank cars and and alongside the building through standing alongside the building through fill pipes, or else from barrels poured into fill boxes set in the platform floor and connected to the tank fill pipes. A system of draining pipes is arranged for cleaning out the tanks, the oil is handled upstairs, in the pump room, by a row of Bowser measuring pumps, row of Powser measuring pumps, each pump connected to one of the tanks. On the top of the platform is a small brick building 30 ft. long, with concrete roof and divided into two rooms by a concrete wall. One room is the by a concrete wall. One room is the pump room and the other is used for storing oilcans, waste, etc. There is a hydraulic elevator from the basement to the platform level outside the house for

handling barrels, etc., from the storage in the basement. There is a stairway to the basement inside the building and there is also a pump running down from the outside. The building and basement are heated by direct radiation coils and The building and basement the floor is the same as the balance of the platform. The building is made as fireproof as possible and the windows are glazed with ¼ in. wire glass.

THE STORES PLATFORM, alongside and to the north of the store house and separated from it by two tracks, consists of a large platform similar to the store house platform and of reinforced construction by 180 ft. carried on concrete posts and open below. It is also at an elevation of 4 ft. above grade. The platform projects into the midway 15 ft., enabling the midway crane to handle material from the platform to the other buildhandle material On this platform is erected a light steel framework, enclosed on the sides and ends with corrugated iron and furnished with a roof covered with prepared roofing. A five ton hand operated crane spans the building and has a runway the whole length on the building and a wide crane door at the front permitting the crane to run out over the platform in front of the building with its load and exchange loads with the midway crane. Access to the building is furnished by four doors on the sides, and one on each end, opening out to the platform. The building is lighted with incandescent lamps in groups with re-The store platform is intended to be used as a storage for large, heavy material, such as castings, pipe, etc., and as a relief to the general house for this class of material which will be protected from the weather by the light structure and will be coveniently handled by the small crane.

THE LOCOMOTIVE CARPENTER AND PAT-TERN SHOP, to the north of the stores platform, is a two-story building 70 by 100 ft. with a self-supporting steel frame on concrete foundations. The first floor is of reinforced concrete and is carried on of reinforced concrete and is carried on concrete columns, and the roof is also of reinforced concrete, making the first floor practically fireproof as all communications with it are protected with fire doors, etc. The ground floor has a 3 in wood floor, and is used as carpenter and potters also being equipped with light pattern shop, being equipped with light wood working machinery driven from line shafts. The carpenter shop is intended to look after the necessary wood-work incidental to locomotive repairs and the pattern shop for the manufacture and repair of patterns. The lava-tory and locker room is on the north side of the shop and communication with the pattern storage upstairs is by an en-closed stairway, or by an elevator runclosed stairway, or by an elevator run-ning in a concrete enclosed elevator shaft equipped with fire doors. The elevator is for handling patterns to and from the pattern storage room. The first floor is equipped with shelving and racks for the storage of patterns, the windows are glazed with wire glass and the room made as fireproof as possible. The heat-ing of both floors is by indirect radiation coils

THE GREY IRON FOUNDRY is a large building 130 by 200 ft. with a cleaning room annex 60 by 80 ft. The main foundry has a central bay 70 ft. wide and foundry has a central bay 70 ft. wide and two side bays each 30 ft. wide. The central bay is used for the general moulding floor, and is spanned by a 15 ton electric travelling crane equipped with a 5 ton auxiliary hoist for light lifting. There are also small jib cranes attached to the columns for handling flasks, etc. The 30 ft. bay on the north side has the moulding floor for scrap side has the moulding floor for scrap castings at the west end and the core room and core ovens at the east end, each served by one ton hand operated travelling cranes. There are three core ovens, two with shelves and rack cars

for general small cores and one large oven with platform car for cylinder cores and similar large work. This core oven with platform car for cylinder and portion of core room is served by a 5 ton bracket crane. Between these two debracket crane. partments on the north side is the cupola room with two cupolas, one 84 ins. and one 72 ins. in diameter. The scale room one 72 ins. in diameter. The blower for weighing charges and the blower room on an elevated steel platform are cupola room. The core ovens are fired from the cupola room, thus keeping all the ash, etc., in one place. The loaded cars, after weighing, are

handled by pneumatic elevator to the charging floor and are handled by pneumatic charging machines. The charging floor has a steel plate floor and is laid out with a transfer truck and storage tracks for keeping loaded cars on hand ready for charging while the cupolas are running. The cupola room and charging floor are 30 by 40 ft. The 30 ft. bay on the south side of the building has the brass foundry at the west end, and en-closed with expanded metal screens 10 This small foundry is equipped with brass furnaces and regular brass foundry equipment and is served by a one ton operated travelling crane. The lavatory and locker rooms are also in this bay and the heating apparatus for the indirect radiation heating system.

The cleaning room is at right angles to the main building and is spanned by a 5 ton electric travelling crane. In this annex are the tumblers, grinders, etc., and a service track runs right through the room, enabling cleaned castings to be loaded right on the cars for shipment. The moulding sand is stored in bins on the south side filled from cars on the service track and distributed by industrial tracks inside the building.

Along the north side of the building between the service track and the foundry is a long galvanized iron shed, roofed in and divided into separate compartments. Here are stored direct from cars, the coke, pig and scrap iron under cover and these are brought into the foundry on cars running on industrial tracks also under cover between the bins and the building. Having both material and handling tracks under cover is a great point in the handling of materials in the cold winter weather. The grey iron foundry is intended to supply the demands of both the locomotive and car departments. Besides the above equipment, a gravity moulding machine and a brake shoe moulding machine are installed.

THE MOTIVE POWER OFFICE BUILDING, south of the locomotive erecting shop and opposite the store house, is a brick and opposite the store house, is a brick structure with a steel interior frame. The floors are of maple on spruce joists carried on the walls and steel work. The building is 60 by 68 ft. and joists carried on consists of two stories and basement. The basement is devoted to a large testing laboratory, lavatories and storage. The ground floor has offices for the officials and clerks for the department, while on the first floor is the drafting room, file room and blue printing room. vault is carried up from the basement to roof with vaults on each floor. The building is plastered throughout and the halls and stairs have a wood wainscot-

The building is heated by direct radiacoils and has incandescent electric lighting fixtures.

CAR DEPARTMENT.

THE COACH SHOP repairs are carried out in a building 115 by 260 ft. are four working tracks down the centre of the shop with a standing capacity of 12 standard coaches. An industrial ser-vice track runs between each pair of tracks for handling material. Along each side is a balcony 16 ft. wide with a light wall enclosing it from the floor of The Longest Continuous Double Track Railway in the World under One Management and the only Double Track Line Between Montreal, Toronto, Niagara Falls, Detroit and Chicago.

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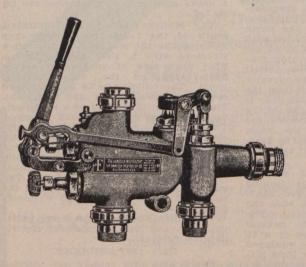
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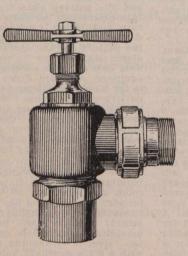
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the balcony to the roof of the building. There are windows in this partition giving light from the shop as well as windows on the outside wall. Material is handed up to these balconies by large hoists; one at each corner of the building. The north balcony is devoted to cabinet work and is laid out with a line shaft operating various light working tools such as scroll and band saws, lathes, drills, surfacers, etc. On the main floor directly below this north balcony are a number of heavier woodworking tools, most of them individual motor driven, such as rip saws, planers, mortisers, matchers, etc., for preparing the lumber before it is sent upstairs to the cabinet them. One of the ideas in cabinet shop. putting the cabinet work upstairs, was to get the work in a dry spot where it would not be affected by dampness, etc., as it would be if on the ground floor. south balcony is divided into several de-partments; the east end is used for the upholstering repair work, then the tinsmith shop, then a varnishing room, and the west end is devoted to a small brass shop, with lathes, a small shaper, drill, etc., and a couple of buffing machines and a lacquer oven. On the main floor below this balcony are located the nickel plating department with its tanks, buffing wheels, etc., the sash washing sink, and in the centre are the lavatories, locker indirect heating apparatus. rooms and The building has a wooden floor balconies have concrete floor. The heat-Cars are ing is by indirect radiation. handled right through the shop, entering it at the east end, passing through the undergoing the necessary reshop and

snop and undergoing the necessary repairs and then going straight across the midway and entering the COACH PAINT SHOP, a building 67 by 340 ft. with four through tracks for painting cars and two industrial service tracks. This shop has a standing capacity for 16 standard coaches. The laws city for 16 standard coaches. The lavatories and heating apparatus are in an annex on the south side. The building is heated by indirect radiation and has a concrete floor draining between the tracks. The cars enter at the east end, either direct face. either direct from the coach shop, or else from yard tracks with cross over connections, and pass through the shop and out

at the west end.
THE FREIGHT CAR SHOP is south of the coach paint shop. It is the second largest building in the plant and is 200 by 600 ft. with nine through tracks having a standard capacity for 108 standard freight cars. The building is divided into three equal bays 65 ft. wide, and there are three car repair tracks with two in-dustrial supply tracks to each bay. Cars enter the east end and are repaired and pass on to the west, where they are painted and stencilled, and then pass out of the west end of the building into the yard. The two side bays have a clear height to bottom chord of truss of 20 ft., while the centre bay has a clear height of 30 ft. and is spanned by a 20 ton electric travelling crane with a 5 ton auxili-This centre bay is intended for the handling and repairing of steel cars in the future when required. The locker rooms and lavatories are in small annexes on each side of the building, and the two sets of indirect heating apparatus are housed in small annexes on the north side of the building with tile distributing ducts throughout the shop. The floor is 3 in. wood throughout the shop and concrete in the lavatories and heating annexes. On each side of the freight car shop are platforms, racks and bins for the storing of prepared rods, bolts, etc., for work on freight cars. These bins, for work on freight cars. etc., are served by industrial tracks run-ning through the shop.

PAINT STORES BUILDING, north of the freight car shop and between it and the coach paint shop, is a small building 30 by 40 ft., and is used for storing, mixing and delivering paint, etc., to the two

paint shops, and is conveniently located and connected to them by a direct industrial track. The building is fitted up with tanks for the various oils and varnishes. bins for dry colors, glass racks, stencil racks and washers, and a color grinder and putty mixer. Barrels of oil, etc., are handled from the platform which surrounds the building by a small telpher hoist which runs around the interior of the shop. The telpher trolley runs on a trolley beam supported from the roof A standard service track passes trusses.. the building, so material is economically delivered and handled.

THE SCRAP PLATFORM is alongside the paint stores and just north of the freight paint stores and just horter or car shop. It is built of wood and with the platforms at the car floor level. large floor, 30 by 200 ft., is divided into bins for the sorting and classification of scrap from the car repair shop. It is served by industrial tracks and has a standard service track passing along the north side for shipping the scrap.

THE CAR DEPARTMENT OFFICE BUILDING near by and close to the midway is similar in every respect to the motive power office building described above, only in this case it houses the officials, clerks and offices of the car department.

THE DRY KILN is a small concrete and brick building about 40 by 50 ft., divided lengthwise into two kilns. There are two large entrance doors at each end and tracks running through the kilns to run in the loaded trucks. The doors at the ends are double with an air space, and the walls are also constructed with an air space. The coils for heating are distributed on the floor, which is of concrete and arranged to drain to a gutter. After the doors are shut, the kilns are controlled from a small cabinet at the west in which are the steam and the return control valves, lighting switches and recording thermometers, the sensitive bulbs of which are several feet along the wall inside the kilns. In this way, once the kiln is closed, a complete record of the process is obtained in the control cabinet.

LUMBER SHED .-- After passing from the lumber yards through the dry kiln, the if it is to be stored, is taken to lumber. the lumber shed, which is close alongside and is 60 by 165 ft. with standard and industrial service tracks running through it. It has a wood floor well laid on sleep-ers and gives a storage for dried or dressed lumber protected from the weather.

PLANING MILL.—From the lumber shed or dry kiln, the lumber enters the east end of the planing mill, which is 100 by 300 ft., and is arranged so that standard cars of material can be run in at the east end and the material unloaded right at the machines. The north side of the shop is devoted to the still work, and here the machines are arranged in order so as to take the rough sill as it enters the building and dress, cut off, mortise, tenon and bore it and pass it out of the west end of the shop all ready to be run into the coach shop alongside of freight car shop across the midway. The south portion of the shop handles the flat work for flooring, sheathing, etc., and in the same way the material entering the building is handled by the saws planers, matchers, cut off saws, etc., and is shipped to the shop where it is to be used. At the west end of the shop is a department for door and sash work, with the necessary planers, saws, sanders, etc., for this work. A small line shaft drives the grinders, saw menders, etc. On the south side at the centre is located the lavatory and locker room, and on a steel platform above them there is arranged the indirect heating apparatus. On the same platform are arranged the hauster fans for handling dust, chips, etc., from the various machines and driving them through pipes to the power

house, where they are used under the Most of the machines are driven individual motors. The floor of the building is of wood and the heating is by indirect radiation.

THE WHEEL FOUNDRY is close to the grey iron foundry and served by the same service tracks.. It is some 70 by 150 ft. laid out in the straight line floor principle with 4 floors of 25 wheels each giving a capacity of 100 wheels a day. This building like all the others can be extended when required. There are 32 annealing pits and two pitting cranes. Wheels are cleaned and loaded on to cars from platform at pit top level. cupola room, the core room, and charging floor are at the north end of the building and are equipped with pneumatic elevator, scale room, pneumatic machine blower, storage tracks and all necessary details for operation. The is heated by indirect radiation. building The stock storage sheds are arranged on the same principle as those for the grey iron foundry, and everything is handled under cover. These sheds and those for the grey iron foundry are laid out on the same lines and may be extended and made one long storage when occasion demands. There is a wheel breaker in con-nection with the wheel foundry and a ball weight casting breaker between the wheel and grey iron foundry.

WHEEL AND MACHINE SHOP .- When the wheels leave the wheel foundry, they are taken to the wheel and machine shop building, 70 by 160 ft., spanned by a 10 ton electric travelling crane and equipped wheel press, wheel lathes, tire furnace, etc., for all wheel work, and with arch bar drills, engine lathes, planners, drills, nut tappers, grinders, etc., for general car shop machine work. The building has a wood floor and is beated by indirect rediction. The layer heated by indirect radiation. The lava-tory and locker rooms are on the south side of the shop. In front of the building is a storage space for mounted wheels convenient to the freight car shop across the midway.

THE POWER HOUSE is 110 by 150 ft., divided lengthwise by a brick fire wall into two rooms, 45 and 60 ft. wide respectively. The boiler room 45 by 150 ft. spectively. spectively. The boiler room 45 by 150 ft. is laid out to receive 10 water tube boilers in units of about 400 h.p. Two of the these boilers are arranged with Dutch ovens for burning shavings, etc., and refuse from the planing mill while the balance of the boilers are equipped with chain grate stokers. The ash pits are furnished with chutes which run the ashes into the conveyor and they are carried up to the ash hopper and thence through the wall by means of a chute into the waiting ash car outside the building. The boiler room and basement floors are of concrete and all shafting, etc., for driving the stokers is carried along the ceiling of the basement.

The engine room 60 by 150 ft. has a pump pit 16 ft. wide and 8 ft. deep running along the whole length of the fire The pit is bridged by gangways from the boiler room to the engine room floor. In the pump pit, is located the air receiver for the compressor, the vacuum pump, the fire, boiler, service and well pumps and the feed water heater. The water and exhaust and other lines carried along the walls of the pit with all connections from apparatus. The floor and retaining wall of the pump The floor and retaining wall of the pump pit are of concrete. In the engine room are located three 500 k.w. a.c. generators driven at 150 r.p.m. by direct connected cross compound corliss engines, one 250 k.w. a.c. generator driven by simple engine, and two 150 k.w. d.c. generators, one driven by simple engine and the other by motor. Two exciter units for furnishing the precessory exists. units for furnishing the necessary excitation for the generators are also driven by simple engine. A 1,500 c. ft. capacity

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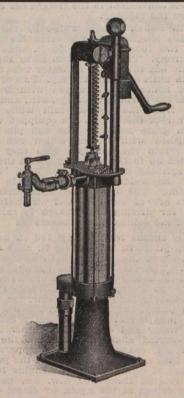
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corliss engine steam driven air compressor completes the engine room apparatus. Along the north is located the switchboard with generator, totality and feeder panels. All connections from generation to switchboard are underground in conduits. From the switchboard to the various buildings and cables are carried in tile ducts laid in concrete. All wiring distribution between power house and other buildings being made underground

The engine room is spanned by a 10 ton hand-operated travelling crane for handling heavy apparatus, etc. The finished floor of the engine room is polished maple laid on a false floor carried on sleepers, bedded in bituminous concrete. A concrete chimney 11 ft. diameter and 200 ft. high alongside the power house, furnishes the necessary draught for the boilers, while a tank with 100,000 galls. capacity elevated 125 ft. above the grade gives pressure for general water service distribution. A smaller tank of 10,000 galls. capacity is hung just below the larger tank giving storage and distributing pressure for drinking water which is piped to drinking fountains throughout the shops.

storage and distributing pressure for drinking water which is piped to drinking fountains throughout the shops.

WATER SUPPLY.—In order to obtain a soft water supply at the shop site, a pumping station is erected on the bank of the Red River just above the city of Winnipeg. The pump house has suction pipes running out into deep water of the river connected to vertical triplex high speed pumps with a capacity of 000,000 imperial gallons in 24 hours. These pumps are direct connected to gas engines by friction clutches. A duplicate gas producer plant is installed and cross connected in every way in order to render a shut down practically impossible. From the pump house, the water is conveyed six miles to the shops through 12 ins. diameter wire wound wooden stave piping; pipe line being fitted with valves, access, access boxes, At the shop site, the pipe line empties into one end of a storage settling reservoir with a storage capacity of 2,-000,000 imperial gallons. This reservoir is constructed of concrete and is 60 by 270 ft. long and 25 ft. deep with a dividing wall running lengthwise dividing it in halves. The surrounding walls and floor are of mass concrete and the centre dividing wall is of reinforced concrete, designed so that one half of the reservoir may be emptied for cleaning, while the other half remains full. reservoir is roofed over with a double plank roof carried on steel beams and a prepared rofing over all. This roof is to keep the dirt and drifting snow out. Close up under the roof are hung a number of pipe coils for heating in winter to prevent the ice forming too thick on top of the water and thus interfering of the water and thus interfering with the outlet pipes, etc. The water is drawn off from the opposite end from that at which it enters, thus giving a good opportunity for the dirt to settle. The reservoir is arranged with by-pass piping by which it can be emptied by the pump and also with sweeters. pump and also with overflow outlets to prevent flooding. Water is drawn from this reservoir for the high level tank and connections are also made to the fire pumps in the power house.

SEWAGE SYSTEM.—As there is no municipal sewer to drain the shops into, it has been necessary to instal a sewer system for them, and as there is not sufficient fall from the shops to the Red River for a gravity flow sewer, it has been necessary to put in a pumping station to force the sewage to the river. A gravity system of tile collecting pipes runs through the shop site connecting with roof downspouts, sanitary sewers and all drains. This sewer line is arranged with manholes, surface drains, vents, etc., and discharge into a concrete pump forming the basement of the pump house. The next floor carried the

volute centrifugal pumps of 16,000 galls. per minute capacity with suction pipes running down into the sumps and shafts running up to the floor above where are located the vertical shaft motors for driving. These motors are controlled by an automatic starter, which is operated by a float in the sump below, adjusted to start and stop the pumps when the water in the sump reaches certain levels. The pumps and motor are in duplicate to have a steady increase of breakdown and the control is so arranged that if one motor fails to start the other will describe be started before the water reaches a dangerous level. Under heavy rain conditions, the flow from the shops and the grounds, is estimated at approximately 16,000 galls. a minute, so pumps of that capacity have to be installed. The pump house is a small reinforced concrete building located about 1,400 ft. from the midway. The two pump discharges run into a single 36 ins. diameter banded wood stave pipe which runs from the pump house to the Seine River, into which it discharges close to its junction with the Red River. The sewer pipe line is carried from the shops to the river along the N.T.R. right of way.

The details of the shop plant were developed and the actual construction carried out under the supervision of Frank W. Walker, M.E., Superintendent of Terminal Shops for the National Trans-

continental Railway.

G.T.R. Betterments, Construction, Etc.

Southern New England Rd.—In connection with the application of the G.T.R. through its controlled company the Central Vermont Ry., to build a line between Southbridge and Palmer, Mass., so as to give it. with a line in Rhode Island, a route to Providence, application has been made to the Massachusetts Railroad Commission, by the New York, New Haven and Hartford Rd., to build the same line. The G.T.R. states that it will build the line whether permission is given to the other company or not, but the N.Y., N.H. and H. Rd., states that it will build only if given an exclusive franchise. The case was further argued June 29, but no decision has been announced.

A press dispatch from Boston, July 12, says that the (Massachusetts State Railroad Commission has given the company the necessary permission to construct the line in question from Palmer, Mass., to the Rhode Island State line, and that the application of the New York, New Haven and Hartford Rd., to build the same line had been refused. In an interview at Montreal, July 14, President Hays, said "The G.T.R. has no intention of building into Boston, as our agreement with the Boston and Maine Rd. is eminently satisfactory." This statement was made after a deputation from Boston, had waited on him to urge the building of such a line.

Allandale Freight Shed Burned.—The freight sheds and weigh scales house at Allandale, Ont., were burned July 1. There was a large quantity of freight in the shed, which was all burned, as well as 12 cars and their contents.

Tiffin to Wyevale.—A contract has been let to the Midland Railway Construction Co., a company controlled by Jas. Playfair, Midland, Ont., for the construction of nine miles of line from Tiffin, on the old Midland Ry., southerly to three miles south of Wyevale, on the Penetanguishene branch. The work is expected to be completed this year. The construction of the line will enable the company to run trains from Toronto and western points to Tiffin and Midland by a shorter route than the present line via Orillia.

Toronto Improvements. — The company has acquired all the land required along its right of way between Dufferin St. and Sunnyside, for the doing away with level crossings, with the exception of four pieces, to secure which expropriation proceedings are being taken. A definite start upon the work is expected to be made at an early date. The improvement will give the company four tracks between Toronto and its Mimico yards, and will do away with a dozen protected level crossings.

Erie St. Bridge, Stratford.—The new bridge, across Erie St., Stratford, Ont., on the line to Goderich, was put in position June 30. without disarranging the traffic. It has been built in connection with the improvement of the line to carry the heavier locomotives and trains now being operated over it. (July, pg. 537.)

Railway Commissioners' Traffic Orders.

Summaries of other traffic orders are given on another page under "Orders by Railway Commissioners":—

COAL RATES FROM LUNDBREK, ALTA.

10960. June 16.—Re complaint of Galbraith Coal Co., Ltd., of Spokane, Wash., and Lundbrek, Alta., complaining that the C.P. Ry.'s special tariffs on coal and coke, C.R.C. nos. W414 and W1296 (the latter since superseded by C.R.C. no. W1359), unjustly discriminate against shipments from Lundbrek in favor of shipments from Lethbridge, Alta. It is ordered that the railway company revise and re-issue its special tariff rates on coal and coke from the shipping points on its Lethbridge, Crows Nest, and Cranbrook sections, to points west thereof. so as to place the said rates on a reasonable basis relatively to the special tariff rates on coal and coke at present in force, or as they may be reduced, from Lethbridge; the said special tariffs of revised rates to be published and filed within 90 days from date of issuance of order.

International Traffic Rates.—We mentioned in our July issue the appointment of J. P. Mabee. Chairman of the Dominion Board of Railway Commissioners as Canadian representative in connection with the discussion of an arrangement for the joint control of international traffic rates between Canada and the United States. The U.S. Government on July 14, appointed M. A. Knapp, chairman of the Inter-State Commerce Commission as its representative. It is understood that Messrs. Mabee and Knapp will meet and discuss the whole matter, and will draw up a report with recommendations, either separately to their own governments or jointy to both governments, and that following the report some legislative action will be taken in both countries.

W. C. Norris, a lawyer of Marcus, B.C., and one of the original directors of the Kettle Valley Lines, has been convicted of stealing \$125,000 from the Oregon Trust and Savings Bank, of which he was cashier. He brought an action to have the charter of the railway in the U.S. confiscated on the ground that practically the whole of the stock was held by Canadians.

The Grand Trunk Pacific Transfer Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of \$100,000, to carry on a general transfer business, and in connection therewith to own and operate steam and other vessels, self-propelled and other vehicles of every description, wharves, warehouses, etc., and to conduct the general businesses of shipowner and baggage contractor.

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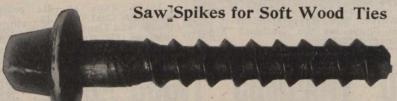
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Orders by the Railway Commissioners.

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

The dates given of orders, immediately following the numbers, are those on which the hearing took place and not those on which the orders were issued. In many cases orders are not issued for a considerable time after the date assigned to them.

Orders 10778 to 10797 were omitted from our July issue, the summaries of them not having been dispatched from Ottawa in

10778. June 4.—Authorizing C.P.R. to build bridges 77.82, Chapleau section, Lake Superior Division; 116.78, Chapleau section, Lake Superior Division; 69.3, Boundary section, Pacific Division.

10779. June 4.—Authorizing C.N.O.R. to build between lots 28 and 29, con. A., Haldimand, tp., at station 330.30.

10780. May 23.—Authorizing C.N.O.R. to build bridge to carry Don Mills road over its line at station 26.85.

10781. June 4.—Authorizing C.N.O.R. to build between lots 21 and 22, con. A., Haldimand tp.

build bridge to carry Don Mills road over its line at station 26.85.

10781. June 4.—Authorizing C.N.O.R. to build between lots 21 and 22, con. A., Haldimand tp.

10782. May 23.—Ordering G.T.R. and C.P.R. to provide gates and watchman at Royce Avenue crossing, Toronto.

10783. June 2.—Authorizing C.P.R. to use natural gas for lighting passenger cars, subject to terms and conditions made, and a penalty of \$100 for failure to comply therewith.

10784. June 2.—Dismissing application regarding protection at G.T.R. crossing, west of Stanfold station, Que.

10785. June 4.—Extending time provided in order 9114, within which C.P.R. was required to complete subway at Iberville St., Montreal, to July 15, and rescinding order 10571, May 16.

10786. June 4.—Authorizing C.P.R. to build across highways on its Lethbridge-Aldersyde Branch at mileage 5.10, 8.90, 11.20, 17.60 and 19.60.

10787. June 6.—Authorizing C.N.O.R. and C.P.R. to operate trains over crossing at mileage 56.6, west from Hawkesbury, without first being brought to a stop.

10788. May 23-25.—Dismissing town of Brampton's application for order directing G.T.R. to provide commutation tickets between Brampton and Toronto, similar to those granted between other suburban points and Toronto, such as Oakville, Streetsville, Whitby and Oshawa, Ont.

10789. June 6.—Approving Vancouver, Fraser Valley and Southern Ry. location in New Westminster, B.C.

10790. June 6.—Authorizing city of Brantford, Ont. to build temporary level crossing over Western Counties Electric Ry. and G.T.R., pending the building of bridge on South Market St.

10791. June 6.—Authorizing Montreal Light, Heat and Power Co.. to place wires across G.T.R. at 16th Ave., Lachine, Que.

10792. June 6.—Authorizing Montreal Light, Heat and Power Co.. to place wires across G.T.R. at 16th Ave., Lachine, Que.

10793. June 7.—Ordering M.C.R. to divert crossing between cons. 6. and 7. along north side of its line to town line road between to build extra track between secs. 1 and 2. and between secs. 12 and 1. tp.

Alta.

10796. June 6.—Recommending to Governor-in-Council for sanction. Bedlington and Nelson Ry. bylaw. re spitting in cars, etc. 10797. June 6.—Authorizing C.P.R. to build bridge 84.1 over Little Creek, Windsor section, Ontario Division.

10962. June 20.—Ordering C.P.R. within 90 days to install an electric bell at Norman St. crossing, near mileage 2, Kenora section, Out.

St. crossing, near mileage 2, Kenora section, Ont.

10963. June 21.—Ordering G.T.R. within 90 days to install an electric bell at Ottawa St. crossing, Hamilton, Ont.
10964. June 21.—Ordering C.P.R. within 90 days to install an electric bell at crossing on north half of sec. 5, tp. 3, r. 5, Morden station, Man.
10965. June 21.—Authorizing C.P.R. to build three additional tracks across King St., Virden, Man.
10966. June 21.—Authorizing city of Port

Arthur, Ont., to lay main under C.P.R. at-2nd Ave.
10967. June 21.—Amending order 6750,
Mar. 30, 1909, which directed Columbia and
Western Ry. to protect Riverside Ave.
crossing, Grand Forks, B.C.
10968. June 21.—Extending to July 20,
time within which C.P.R. was required by
order 10273, Apr. 21, to install electric bell at
Martin St. crossing, Milton, Ont.
10969, 10970. June 20.—Authorizing Ontario Public Works Department to build
Sudbury-Soo t_unk wagon road across
C.P.R. Sault Ste. Marie branch at grade,
lot 7, con. 11, Long tp., and lot 9, con. 6,
Lorne tp.
10971. June 20.—Ordering M.C.R. to divery crossing three-quarters mile west of
Fletcher station. Tilbury east tp., Ont.,
which when completed relieves the company
of the necessity of keeping a watchman
there.
10972. June 22.—Authorizing M.C.R. tem-

which when completed relieves the company of the necessity of keeping a watchman there.

10972. June 22.—Authorizing M.C.R. temporarily and pending final determination of the matter, to operate trains over Malden Road crossing, 0.71 mile west of Woodslee station, Ont., at greater speed than 10 miles an hour, provided that it maintain a watchman there.

10973. June 22.—Authorizing C.N.R. to connect its Maryfield Extension and Moose-jaw Branch, in ½ sec. 24. tp. 6, r. 18, w. 2, m., Sask.

10974. June 18.—Approving location of C.N.O.R. station grounds at Brighton.
10975. June 22.—Authorizing C.P.R. to build two additional tracks across Lacrosse St., Virden, Man.
10976. June 22.—Approving plans of G.T.R. station at Nixon, Ont.
10977. June 22.—Approving location and plans of G.T.R. station at Hepworth, Ont. and re-location of track crossing highway to the south.

to the south.

10978, 10979. June 21.—Authorizing G.T.R. to build branch to premises of Goldie and McCulloch Co., Galt, Ont., and John Dick,

Toronto. 19980. June 20.—Amending order 10752, May 19, which directed G.T.R. to divert highway and build bridge between cons. 1 and 2, King tp., Ont., by providing that the bridge be maintained by railway and the roadway and fences on each side of approaches by the municipality. 10981. June 22.—Authorizing Hamilton Cataract Power, Light and Traction Co. to place wires across Bell Telephone Co.'s wires at lots 14 and 15, con. 6, Barton, tp., Ont.

place wires across Bell Telephone Co.'s wires at lots 14 and 15, con. 6, Barton, tp., Ont.

10982 to 10987. June 23.—Authorizing Esquimalt and Nanaimo Ry. to build across highways at mileage 133.2, 132.62, 134.10, Argyle St., Port Alberni, mileage 131.5, 131, and 132.48, from Victoria, B.C.

10988. June 23.—Authorizing Vancouver, Victoria and Eastern Ry. and Navigation Co. to build spur to Prudential Investment Co.'s premises, Vancouver, B.C.

10989. June 25.—Authorizing C.P.R. to build spur to Quaker Oats Co.'s premises, Peterboro, Ont.

10990. June 24.—Ordering that cost of building and maintaining M.C.R. and P.M. R. interchange track at Leamington, Ont., be divided equally.

10991. June 23.—Declaring that P.M.R. crossing immediately east of its Leamington Ont., station is protected to the Board's satisfaction.

10992. June 23.—Extending to July 10, time within which rates on petroleum and its products from Toronto, Petrolia, Sarnia, and Wallaceburg. shall become effective, as required by order 10356, Apr. 25.

10993.—June 25.—Authorizing Ontario Hydro-Electric Power Commission to place

required by order 10356, Apr. 25.

10993.—June 25.—Authorizing Ontario Hydro-Electric Power Commission to place wires across C.P.R. telegraph wires, lot 55, con. 1, Ancaster tp.

10994. June 24.—Authorizing Laval Electric Co., to place wires across C.P.R., near Mascouche station. Que.

10995. June 23.—Authorizing town of Fraserville, to maintain water pipe across Temiscouata Ry, at Riviere du Loup, Que.

10996. June 24.—Authorizing R. Forbes Co. to lay pipe under G.T.R. at Hespeler, Ont.

Ont.
10997. June 23.—Authorizing W. J. Aikens, to lay pipe under Toronto. Hamilton and Buffalo Ry., at Cainsville, Ont.
10998. June 27.—Authorizing city of Toronto to lay a sewer under C.P.R., G.T.R., and C.N.R. at Riverdale Park.

10999. June 27.—Amending order 9977, Mar. 23, made on application of Alberta Central Ry., approving its location from Red Deer, by cancelling approval of line from Red Deer to west side of sec. 8, tp. 38, r. 27, w. 4 m.

11000. June 27.—Approving Alberta Central Ry. location from mileage 2, sec. 3, tp. 38, r. 27, w. 4 m.. to mileage 20. 11001. June 27.—Authorizing C.P.R. to build additional track across road allowance

at east boundary of sec. 33, tp. 9, r. 25, w. p.m., Routledge, Man. 11002 to 11013. June 25,—Authorizing Atlantic, Quebec and Western Ry. to build across highways at 12 points in Gaspe county. One

ty, Que.

11014. June 27.—Approving form of permit allowing the use on M.C.R. of a railway

nit allowing the use on M.C.R. of a railway bicycle.

11015. June 28.—Authorizing National Transcontinental Ry. to cross C.P.R. Emerson Branch overhead at St. Boniface, Man. 11016 to 11018. June 27-28.—Temporarily approving, pending final determination of Bell Telephone Co.'s tariff of tolls and form of agreement with other companies, agreements with C.N.Q.R., June 13, People's Telegraph and Telephone Co., June 8, and Wolford Rural Telephone Co., May 17; providing that it be not taken to authorize any higher tolls than were authorized previous to May 13, 1906.

11019. June 27.—Relieving C.P.R. from providing further protection at crossing between lots 19 and 20, Blandford tp., Ont. 11020.—June 28.—Approving C.N.R. location through tps. 26-23, r. 24, w. 5 m., Alta., mileage 212.83 to 257.32 from junction line at Vegreville.

11021. June 28.—Approving James Bay and Eastern Ry. location northwards from Roberval, through Roberval, Quiatchuan, Ashuapmuchuan, Demeules and Dufferin tps., Que.

11022. June 29.—Extending, for two months from date, time within which C.P.R. shall erect gates at Louis St. crossing, Farnham, Que., as required by order 10450, Apr. 28.

11023. June 28.—Authorizing C.N.O.R. to

Apr. 28.
11023. June 28.—Authorizing C.N.O.R. to build a siding across concession road at Sudbu, y Jct. between cons. 4 and 5, Neelon

tp.
11024. June 28.—Authorizing C.N. O.R. to build bridge over Goforth's Creek, and to carry its tracks across public road at mileage 214.28 from Ottawa.
11025. June 28.—Authorizing city of Toronto to lay pipe at Davenport Road, under G.T.R.

11026. June 29.—Ordering M.C.R. to divert Medora and Thomas Sts. and combine the two crossings, west of Essex station,

vert Medora and Thomas Sts. and combine the two crossings, west of Essex station, Ont.

11027. June 29.—Approving plans showing interlocking signals and switches to be installed by G.T.R. at Alford Jot., Ont.

11028. June 29.—Approving plans of C.P.R. bridge over Kaministikwia River, Fort William, Ont.

11029. June 29.—Rescinding order \$110, Sept. 14, 1909, authorizing Vancouver Power Co. to cross with its railway the New Westminster and Southern Ry, and providing for installation of full interlocking plant, by ordering that the crossing be protected by double-armed schaphore operated by trainmen making crossing.

11030. June 29.—Authorizing C.P.R. to operate a branch across road allowance and on Bardsley's premises, n. e. ¼ sec. 4, tp. 2, r. 7, w. 2, m., at Shand, Sask.

11031 to 11033. June 29.—Authorizing Saskatchewan Government Telephones to place wires across C.P.R. at three points.

11034. June 29.—Authorizing Ontario Hydro-Electric Commission to carry wires across G.N.W. Telegraph Co.'s wires at lot 120, Thoroid tp.

11035. June 28.—Authorizing city of Lachine, Que., to lay pipe under G.T.R. Lachine Wharf Branch, at Notre Dame St.

11037. June 30.—Authorizing dontreal Rolling C. Lacking Montreal Rolling Commission.

Ave. 11037. June 30.—Authorizing Montreal Rolling Mills Co., to build automatic coal handling railway over G.T.R. Lachine Canal Bank branch, on St. Ambroise St., St. Henri,

Que. 11038. June 2.—Authorizing Lincoln Paper Mills Co. to lay wate, main under Niagara, St. Catharines and Toronto Ry., in Merrit-

Mills Co. to lay wate, main under Niagara, St. Catharines and Toronto Ry., in Merritton, Ont.

11039. June 21.—Rescinding order 10798. June 7, which authorized a diversion of M. C.R. crossing at Fletcher station, Ont.

11040. June 29.—Authorizing C.P.R. to build a subway at Cornelia St. and overhead bridge at George St., Smiths Falls, Ont.

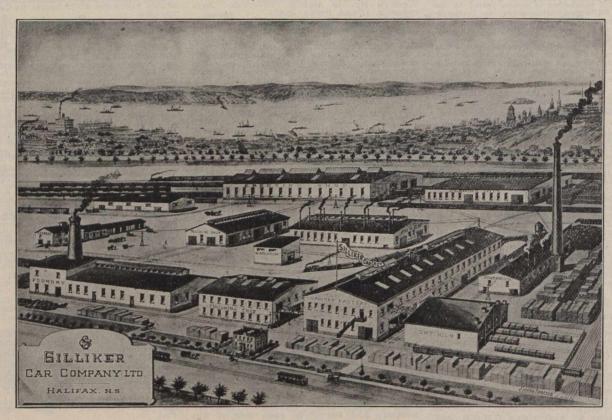
11041. June 27.—Ordering that all railways subject to the Board's authority, file with the Board not later than Aug. 15, supplements to their official distance tables, issued in compilance with order 5954, Dec. 21, 1908, showing names of points at which freight traffic may be interchanged with connecting railways; names of railways with which freight may be interchanged at such points; whether freight traffic when may be so interchanged consists of c. l. or l. c. l. or both; whether the interchange is by switch connection or by cartage.

11042. June 23.—Authorizing Lachine, Jacques Cartier and Maisonneuve Ry. to cross Montreal Park and Island Ry, at Bagg Ave.

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CONCRETE REINFORCEMENT

Sault aux Recollets, parish, Que. 11043, June 24.—Authorizing Matsqui municipality to build highway across C.P.R. Mission Branch at Matsqui, B.C. 11044. July 2.—Authorizing C.P.R. to build spur for Nichols Chemical Co., Hungerford tp., Ont. 11045. July 5.—Relieving G.N.R. from providing further protection at Government Ave. crossing, Weston, B.C. 11046. June 30.—Authorizing C.N.O.R. to build across road between Hope and Hamilton tps.

ilton tps.

11047. June 30.—Authorizing the CN.O.P. to close and divert road through lot 20, con.

Murray tp. 1048. July 5.—Authorizing C.P.R. to use

11048. July 5.—Authorizing C.P.K. to use 21 bridges. 11049. June 24.—Dismissing application of Montmorency village, Que., for order directing Q.R.L. and P. Co., to provide crossings

there.

11050. June 23.—Dismissing application of Board of Trade of Three Rivers, Que., alleging excessive freight rates and defective service of the G.T.R. between Three Rivers and St. Celestin.

11051 June 23.—Dismissing application of St. Valere de Bulstrode parish, Que., for order directing G.T.R. to reconstruct its part of Black River bridge.

11052. June 5.—Approving plans of drain to be built under P.M.R. in Harwich tp., Ont.

of C.P.R. stations at Ruskin and Chase,

B.C. 11055. June 30.—Authorizing C.P.R. to build additional track across road allowance at Coleman, Alta.

11056 to 11059. June 30.—Authorizing C.P.R. to build additional siding across road allowance between secs. 3 and 4, tp. 10, r. 22, w. p. m.; additional track across road allowance between secs. 17 and 18, tp. 10, r. 21, w. p. m., and across Dundee St. Alexander; additional siding across road allowance between secs. 14 and 15, r. 27, near Hargrave Station, and additional siding across road allowance between secs. 31, and 32, r. 1, w. 2, m., near Burrows station, Man.

near Hargrave Station, and additional suring across road allowance between secs. 31, and 32, r. 1, w. 2, m., near Burrows station, Man.

11060, 11061. July 5.—Authorizing C.P.R. to build spurs to premises of Woodhall Metal Co. and McClary Mfg. Co., Calgary, Alta. 11062, 11063. July 5.—Authorizing G.T.R. to build a branch to premises of Ontario Asphalt Co., Walkerville, C. Kreutziger, Waterloo, Ont.

11064. July 5.—Authorizing G.T.R. to build branch from its line from Toronto to North Bay 820 feet distant from m.p. 37 to the canal lands north of side road running west from road between cons. 1 and 2, East Gwillimburg, tp., Ont.

11065. June 29.—Authorizing Ontario Hydro-Electric Commission to place wires across G.N.W. Telegraph wires at lot 55, con. 1, Ancaster tp.

11066, 11067. July 5.—Authorizing Queen City Oil. Co. to lay a pipe under G.T.R. and Kingston and Pembroke Ry., Kingston, Ont. 11068. July 6.—Recommending to Governor-General-in-Council for sanction, agreement of sale of May 19 between Royal Trust Co., and Quebec Oriental Ry. Co.

11069. June 24.—Dismissing application of city of Quebec, for order directing Q.R.L.H. & P. Co. to cross C.P.R. main line at Lesage Ave.

11070. June 23.—Dismissing application of city of Quebec, for order directing Con.

& P. Co. to cross C.P.R. main line at Lesage Ave.

11070. June 23.—Dismissing application of city of Three Rivers, Que., regarding condition of Plaisance St. crossing over C.P.R.

11071. June 24.—Adding Bell Telephone Co. as a party to St. Maurice and Champlain Telephone Co.'s application for order directing Portneuf Telephone Co. to carry out an agreement.

11072. July 5.—Extending until Sept. 15, time within which C.P.R. was required by order 8992, Dec. 17, 1909, to complete work at crossings in Artemesia tp., Ont.

11073. July 5.—Approving W.E. & L.S.R. Ry.'s bylaw 102, authorizing A. Eastman, General Manager, to prepare and issue tariffs of tolls.

General Manager, to prepare and issue tariffs of tolls.

11074. July 5.—Approving location of G.T.P.R. Melville-Regina Branch from mileage 33 to 91.24. Sask.

11075. July 5.—Approving change of location of C.P.R. station building from Lanorale to Joliette Jct., Que.

11076. July 5.—Authorizing C.P.R. to build under Bell Telephone Co.'s wires between cons. 2 and 3, lots 6 and 7, Etobicoke tp., Ont.

Ont. 11077, 11078. July 5.—Authorizing Ontario Hydro-Electric Power Commission to place wires across Bell Telephone Co.'s wires at

wheels across Bell Telephone Co. which were two points.

11079. July 6.—Authorizing city of Winnipeg to build conduit under C.P.R. at King St.

11080. July 8.—Authorizing city of Ottawa to lay sewer under C.P.R. on Beech

St. 11081. July 5.—Authorizing C.P.R. to build

spur to Calgary Paving Co.'s premises, Calgary, Alta.

11082. July 6.—Ordering M.C.R. to divert crossing between cons. 6 and 7 along the north side of its line to town line road between Tilbury East and Raleigh tps., Ont.

11083. July 6.—Amending order 10819, June 6, by substituting Millbank for Mornington, in lines 3 and 4 of the recital.

11084. July 5.—Relieving T.H. & B. Ry. from providing further protection at Canboro Road crossing near Fenwick station, Ont.

ont.
11085. July 4.—Ordering C.N.R. to comply with order 9293, Jan. 17, within two months from date and in event of its failure to do so, it shall be liable to a penalty of \$25 a day for every day after work remains uncompleted.

day for every day after work remains uncompleted.

11086. June 23.—Ordering G.T.R. to provide station for freight and passengers with agent at Three Rivers, Que., and furnish improved train service between Doucet's Landing and Victoriaville.

11087. July 6.—Authorizing Atlantic, Quebec and Western Ry. to open for traffic the portion of its line between Port Daniel and Grand Pabos, Que., mileage 20¼ to 35.

11088. June 30.—Authorizing C.N.O.R. to cross overhead between lots 20 and 21, con. 1, Cramahe tp.

11089. July 7.—Authorizing Seymour Power and Electric Co. to place wires across Bell Telephone Co.'s wires at lots 22 and 23, Thurlow tp., Ont.

11090, 11091. July 7.—Recommending to Governor-in-Council for sanction, Algoma Central and Hudson Bay Ry. and Manitoulin and North Shore Ry. bylaws re spitting in cars.

11092. June 27.—Dismissing Grand Valley

11092. June 27.—Dismissing Grand Valley Ry. application to cross Brantford and Ham-ilton Electric Ry. at Murray St., Brantford, Out

Ont. 11093.

ilton Electric Ry. at Murray St., Brantford, Ont.

11093. June 28.—Authorizing Toronto, Niagara and Western Ry. to build across 24 highways in Toronto.

11094. June 27.—Dismissing Grand Valley Ry. application to cross H. & B. Ry. at Cayuga st., Brantford, Ont.

11095. June 27.—Dismissing C.P.R. application re protection at Dundas and Waterloo road crossing, Galt, Ont.

11096. June 27.—Authorizing Toronto, Niagara and Western Ry. to take certain portions of lot 35, con. 3, and part of lots 14 to 24, inclusive, Toronto.

11097. June 27.—Dismissing Grand Valley Ry. application for authority to cross Western Counties Electric Co.'s canal at Murray st., Brantford, Ont.

11098. June 27.—Dismissing application of Colchester South municipality, Ont., alleging inadequate passenger and freight service furnished by P.M.R.

11099. June 27.—Dismissing Hamilton Rates and the Electric Co. application of the control of the

11099. June 27.—Dismissing Hamilton Radial Electric Ry. application for order directing city of Hamilton to provide safety appliances and to erect overhead crossing at east end of city's bridge on east side of Sherman

nnet.

11100. June 28.—Authorizing Canada Southern Ry. to take certain lands of F. Pawloski in Windsor, Ont.

11101. June 27.—Dismissing city of Toronto's application for order directing G.T.R. to provide protection at its Woodbine ave.

11102. June 30.—Dismissing G.Ry. application of the control of the c

provide protection at its wooddine ave. crossing.

11102. June 30.—Dismissing Grand Valley Ry. application for approval of location of proposed terminal connecting G.V.R., Brantford & Hamilton Electric Ry, and T. H. & B. Ry. with the Holmedale factory district. Brantford, Ont.

11103. June 27.—Ordering C.P.R. to install an electric bell at Weston road crossing, York tp., Ont.

11104. July 9.—Ordering C.N.R. to forthwith erect stop-order boards, placed 100 ft. on each side of Pembina st. crossing, Winnipeg; that all C.N.R. trains be brought to a full stop before being flagged over the crossing, and ordering Winnipeg Electric Ry. to forthwith build a single track under C.N.R. there.

there.

11105. July 8.—Amending order 10998, June 24, authorizing R. Forbes Co. to lay water pipe under G.T.R. at Hespeler.

11106. July 12.—Authorizing city of Winnipeg to build conduit under C.P.R. on King st. and Higgins ave.,

11107. July 8.—Authorizing Lincoln Paper Mills Co. to lay water main under G.T.R. in Merritton, Ont.

11108. July 7.—Authorizing city of Ottawa to lay water main under C.P.R. at Beechwood ave. crossing, near St. Patrick st. bridge.

wood ave. crossing, near St. Patrick St. bridge.

11109, 11110. July 7.—Authorizing city of Peterboro, Ont., to lay sewer under G.T.R. at Dalhousie and Ware sts.

11111. July 12.—Authorizing United Fuel Supply Co. to lay pipe under M.C.R. at Main st., Brigden, Ont.

11112. July 6.—Declaring that C.P.R. crossing at Dundas st., Woodstock, Ont., is protected to the Board's satisfaction.

11113. July 8.—Ordering C.P.R. to provide farm crossing for W. Hutchin, Brownsburg,

Que.

11114 to 11116. July 7.—Authorizing
C.N.Q.R. to build between lots 20 and 21, Ste.
Foye parish; between lots 2363 and 2365,
Little River parish; and across Gros Pin
road, lot 4144, Limoilou parish.

11117. July 7.—Extending to Dec. 1 time
within which G.T.P.R. Branch Lines Co. was
required by order 10613, May 12 and 13, to
install interlocking plant at its crossing of
C.P.R., at Alix, Alta.

11118. July 12.—Authorizing the New
Brunswick Southern Ry. to build bridges
50.54, at Pocologan River, and 30.5, at Linton
stream.

50.54, at Pocologan River, that co., stream.
11119. July 9.—Authorizing G.T.P. Branch Lines Co. to divert road between secs. 20 and 21, tp. 33, r. 23, w. 4 m., South Alberta Dis-

21, tp. 33, r. 23, w. 4 m., South Alberta District.

11120. July 12.—Authorizing C.P.R. to build bridges, 125.2, at Hastings, B.C., and 45.3, at Alliston, Ont.

11121, 11122. July 12.—Authorizing C.P.R. to build spurs across Champagne ave. and Ducharme st., Outremont, Que., and for city of Winnipeg to connect with Winnipeg Electric Ry.'s easterly gas house spur.

11123. July 12.—Authorizing C.P.R. to build bridges, 62.8, Goat River, Sirdar section, Western Division; 37.4, Toronto section, Ontario Division; 120.79, Chapleau section, and 107.92, Cartier section, Lake Superior Division.

11124. July 7.—Authorizing B.C. Lands and Works Department to operate interlocking plant and signal apparatus on Fraser River bridge at New Westminster.

11125. July 9.—Authorizing Laval Electric Co. to place wires across other wires near Mascouche station, Que.

11126. July 12.—Authorizing city of Lethbridge, Alta., to lay sewer and water main under C.P.R. between secs. 4 and 5, tp. 9, r. 21.

bridge, Alta., to lay sewer and water main under C.P.R. between secs. 4 and 5, tp. 9, r. 21.

11127. July 12.—Authorizing St. Marys Wood Specialty Co. to lay drain under C.P.R. in St. Marys, Ont.

11128. July 12.—Authorizing city of Lethbridge, Alta., to lay water main and sewer under tracks at Westminster road.

11129. July 7.—Authorizing C.N.Q.R. to divert road on lots 1 and 3, Portneuf parish.

11130. July 11.—Approving Anglo-American Telegraph Co.'s tariff of tolls in Prince Edward Island and New Brunswick and between these provinces. C.R.C.I.

11131. July 12.—Approving C.P.R. Sault Ste. Marie Branch revised location as constructed at Desbarats station, and authorizing C.P.R. to build across Huron ave., Desbarats, Ont.

11132. July 12.—Approving C.P.R. location from Sedgewick to sec. 30, tp. 44, r. 12, w. 4 m., mileage 0 to 3.65, Alta.

11133. July 12.—Authorizing C.N.R. to build across 16 highways in tp. 2, r. 19 to 21, w. p. m., Man.

11134, 11135. July 12.—Extending to Aug. 8 time within which C.P.R. was required by orders 10524 and 10523, May 9, to install electric bells at William st. and Colborne st. crossings, London, Ont.

11136. July 8.—Relieving C.P.R. from providing protection at Zorra st. crossing, Beachville, Ont.

11137. July 12.—Authorizing Montreal St. Ry. to connect with C.P.R. on Sanguinet st. 11138. July 8.—Authorizing Robert McNair Shingle Co. to build crossing over C.P.R. right of way one mile west of Port Moody, B.C.

11139. July 12.—Authorizing C.P.R. to build additional track between secs. 5 and 6,

right of way one mile west of Port Moody, B.C.

11139. July 12.—Authorizing C.P.R. to build additional track between secs. 5 and 6, tp. 2, r. 25, w. p. m., at Waskada, Man.

11140. July 8.—Authorizing C.P.R. to build spur for Saskatoon Brick and Supply Co., Saskatoon, Sask.

11141. June 27.—Authorizing G.T.R. to build two additional sidings on and across St. Clair ave., Toronto.

11142. July 6.—Dismissing application of proprietors of Russell House, Ottawa, for order fixing terms of contract for installation of room telephone service.

11143. July 12.—Authorizing C.P.R. to reconstruct bridge 53, over Maitland River, on its Teeswater Branch, Ont.

11144. July 12.—Authorizing C.P.R. to build two spurs for Frank Lime Co., at Hill-crest, B.C.

11145, 11146. July 12.—Authorizing town of Maisonneuve, Que., to lay pipes under C.N.Q.R. at Aird ave., and Aird st.

11147. July 12.—Authorizing C.P.R. to build spur to Western Dry Dock and Shipbuilding Co.'s premises, Port Arthur, Ont.

11148. July 13.—Amending order 11087, July 6, by striking out "Grand Pabos" in recital and operative parts and substituting "Newport."

cital and operative particles of the cital and operative particles of the cital and Southern Ry. from providing protection at Chemin de Ligne crossing, Sorel, Que. 11150. July 13.—Relieving P.M.R. from providing protection at crossing at Cedar Springs, Ont.



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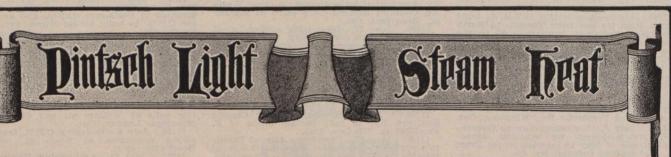
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trainpipe valves and other appliances.

11151. July 13.—Relieving C.P.R. from providing protection at crossing between cons. 2 and 3, Lobo tp., Ont.
11152. July 5.—Relieving Dominion Atlantic Ry. from providing protection at crossing of second highway west of Middleton station, N.S.

3. July 12.—Approving G.T.P. Tele-Co.'s tariff of tolls, C.R.C. 9, filed May 11153.

N.S.

11153. July 12.—Approving G.T.P. Telegraph Co.'s tariff of tolls, C.R.C. 9, filed May 18, 1909.

11154. July 13.—Approving Vancouver, Fraser Valley and Southern Ry. location from eastern boundary of city of Vancouver to False Creek, B.C.

11155. July 13.—Authorizing C.N.O.R. to build across Vale st., Colborne.

11156. July 11.—Authorizing G.T.P. Branch Lines Co. to connect its Yorkton Branch with C.N.R. in s.w. ½ sec. 36, tp. 30, r. 4, w. 2 m., at Canora, Sask.

11157. July 12.—Ordering that C.N.R. prohibit whistling by locomotives operating within the city of Winnipeg; such whistling to be allowed only where it shall be deemed necessary, by those in charge, to prevent accident, and ordering that any person offending against this regulation be liable to a penalty of \$50 for each offence.

11158. June 24.—Authorizing Quebec Railway, Light, Heat and Power Co. to cross C.P.R. at St. Valiers st.

11159. July 13.—Ordering that all portions of Hudson's Bay Co.'s reserve in Edmonton, Alta., west of 16th st. and south of C.N.R. right of way, as a strip between two lines parallel with and perpendicularly distant 25 ft. from G.T.P.R. centre line of the G.T.P.R., and containing 1.8737, more or less, be released from operation of pian originally filed.

11160. June 27. Ordering G.T.R. to ouild a branch about five miles north of Georgetown, Ont.

Pailway Finance, Meetings, Etc.

Alberta Ry. and Irrigation Co.—Traffic receipts for June, \$34,115, against \$22,-284 for June, 1909. Cumulative traffic 284 for June, 1909. Cumulative traceipts for 12 months ended June \$389,252, against \$310,226 for so same period 1908-09.

Alexander Gibson Ry. and Manufacturing Co.—A settlement was effected July 12, in the case of the Royal Trust Co. and others, representing the bondholders, against the company, Alex. Gibson, the Bank of Montreal and others. The property consists of cotton mills, 450,000 acres of timber limits, railway equipment. railway equipment and other property, upon which the Bank holds a first charge of \$689,848; and there are other charges aggregating about \$1,000,000. charges aggregating about \$1,000,000. The settlement provides that all the properties to be sold, and to be distributed among the creditors, Alex. Gibson to be paid an annuity of \$5,000 and to have the use of his house and grounds at Marysville. N.B., for life. The estate formerly owned the Canada Eastern Ry, and the Fredericton Ry. Extension and Bridge Co., which were taken over some years ago by the Dominion Government, and are now operated as part of the and are now operated as part of the Intercolonial Ry.

Canadian Collieries (Dunsmuir) Lim-Canadian Collieries (Dunsmuir) Limited.—The final payment was made to the Dunsmuir estate, June 16, and the Mackenzie, Mann & Co. interests took final possession of the collieries, railway and other property. The offices are being transferred to Vancouver, B.C., where offices have been taken in the Burns Building, Hastings St. W. L. Coulson, has been appointed General Manager of the collieries. A. D. McRae is Managing Director.

Canada Southern Ry.—A dividend of

Canada Southern Ry.—A dividend of 1½%, payable Aug. 1, has been declared for the past half year. Up to the present time the dividends have been at the rate of 2½%, but under the lease to the Michigan Central Rd., made in 1903, the rate was to be increased to 3% in

Central Vermont Ry.—A Boston Mass., dispatch of July 4, stated that the New York, New Haven and Con-Ry.—A 4, stated that the New York, New Haven and Connecticut Rd.., was purchasing the C.V. Ry. E. H. Fitzhugh, Vice President, said the story was "utterly absurd and without a shadow of foundation in fact. The C.V. is not for sale." The G.T.R. owns over \$2,000,000 of the C.V.R. au-

thorized capital stock of \$3,000,000, and guarantees the interest under a traffic agreement.

Cumberland Ry. and Coal lease of the company's coal areas in Cape Breton has been granted to the Dominion Coal Co., with an option of purchase for \$500,000 at any time during the currency of the lease.

D'Israeli Asbestos Co.—The ences between the directors of this company, which has some railway building in view, have been settled by the election of a new board as follows:

President, S. Wood; Vice President, I. A. Codere; other directors: L. D. Morton, A. H. Marquis, T. Sherman, — Peters, F. R. Beckwith, S. A. Warrell, F. Campbell, R. Gagnon. In consequence of the arrangement the conspiracy charges against former directors and officers have been dropped.

Grand Trunk Pacific Ry .- A London, Eng., cable, July 15, states that arrangements are being made for the issue of £2,000,000 of 8% G.T.P. Ry. bonds at £82 10s., for construction purposes.

Intercolonial Ry.—The returns for the first three months of the financial year are being made up, and an Ottawa dispatch July 11, states they indicate a surplus of about \$125,000, in spite of heavy outlays on renewals in the spring charged to current account.

Lake Superior Corporation .- At the Lake Superior Corporation.—At the June meeting of the directors it was reported that the Cannelton Coal and Coke Co. in West Virginia, had been acquired in order to provide fuel for its various undertakings. The reports of the earnings for the company's railways and industrial plants for ten months ended April 30, were stated to be satisfactory factory.

London and Port Stanley Ry.—The report of the London, Ont., City Auditor on the accounts of the L. and P.S. Ry., for 1909, shows that the earnings from operation by the Pere Marquette Rd., increased \$9.732.72 over 1908; the passenger business decreasing \$345.52 and the freight traffic increasing over \$10,000. The tolls received from the Michigan Central Rd. decreased \$77.65, and the express business fell off \$191.56.

London and South Eastern Ry.-Fol-London and South Eastern Ry.—Fol-the current year:—President, W. J. Reid; Vice President, T. H. Smallman; Secretary-Treasurer, J. W. Little; other directors: J. Labatt, J. A. Campbell, M. Masuret, and the Mayor of London, Ont., ex-officio.

The Midland Terminal Ry. two miles in length, operated in connection with the blast furnaces at Midland, Ont., carthe blast furnaces at Midland, Oht., carries freight only. The company owns two locomotives and eight flat cars. The total cost of the railway is reported at \$20,742.67; of rolling stock, \$12,622.20, and of land and buildings \$228,980.14, and it is also reported that on June 30, 1909, there was a balance of \$3.262.36 at credit of profit and loss account, makredit of profit and 1888.37. The liatotal asets of \$265,608.37. The liatotal stock. \$250,000. bilities were: capital stock, \$250,000. which is held by 12 shareholders: and \$15,608.37 of loans and notes payable to the Canada Iron Corporation. ings for the year ended June 30, 1909, were \$12,330.54, and the operating expenses \$13,334.63. a loss of \$1,004.09. The officers and directors are: President, General Manager and Superintendent, General Manager and Superintendent, J. Drummond, Midland; Treasurer, A. K. Fish, Montreal; other directors: G. E. Drummond. C. E. Gudewell. R. Milton, Montreal; F. Leeming. Brantford. Ont.; clerk. A. C. Adams, Midland; General Counsel. W. J. White, K.C., Montreal.

New York Central and Hudson River Rd.-Michigan Central Rd.—There has been deposited with the Secretary of State at Ottawa. a lease dated June 8,

by the Guaranty Trust Co. of New York, trustee, to the New York Central and Hudson River Rd. Co.; the Lake Shore and Michigan Southern Ry. Co.; the Michigan Central Rd. Co.; the Cleve land, Cincinnati, Chicago and St. Louis Ry. Co., and the Chicago, Indiana and Southern Rd. Co., in pursuance of chap. 38 of the Statutes of Canada, 1907.

Quebec and Lake St. John Ry.-An action has been brought in the Quebec courts by C. A. Hanson of London, Eng., against the company to recover £250,000, being the value of prior lien bonds held by him. C. A. Hanson is head of the brokerage firm in England, with which the Montreal firm of Hanson Brothers is associated.

Quebec Central Ry.—Gross earnings for May, \$98,945.56; expenses, \$64,-907.50; net earnings, \$34,038.06, against 907.50; net earnings, \$34,038.06, against \$85,612.49 gross earnings; \$58,402.20 expenses; \$27,210.29 net earnings for May 1909. Aggregate gross earnings for 11 months ended May 31, \$985,019.94; expenses, \$677,443.14; net earnings, \$307,576.80, against \$929,555.20 aggregate gross earnings; \$658,230.41 expenses; \$671.244.79 not earnings for some period \$271,324.79 net earnings for same period

Temiskaming and Northern Ontario Ry.—Total revenue for May, \$113,926. 43; expenditure. \$83,704.50; balance, \$30,221.93; less hire of equipment, \$1,-116.15; net earnings, \$29,105.78; per-centage of expenses to earnings, 73.4.

Canadian Freight Association.

The summer meetings were held at Penetanguishene. Ont., July 6 and 7. Most of those attending, a number of whom were accompanied by lady members of their families, left Toronto on July 6 by special G.T.R. train at 9 a.m., reaching Penetanguishene a little after reaching Penetanguishene a little noon. J. Pullen, Assistant Freight Traffic Manager G.T.R., who came through from Montreal to Toronto on a special car with a nmber of other east-ern members, and J. D. McDonald, District Passenger Agent G.T.R., Toronto, were assiduous in their attentions to the party. Other members reached Penetanguishene by other routes and there were altogether about 100 in the party.

The freight, classification and executive committees met during the afternoon of July 6, the Association's general meeting being held the following morning. The summer meeting, is the only one at which there are any social features and these were very enjoyable. Sailing on the Penetanguishene bay was much enjoyed. On the morning of July 7 the ladies of the party and a number of men guests who had not to at-tend the general meeting were taken by the Penetanguishene town council on the steamboat John Lee, through the beau-tiful Georgian Bay islands to Honey Harbor and Minnicoganashene. In the afternoon there was a baseball match between teams composed of eastern and western members of the Association, the latter winning by a considerable score. On July 8 the party went to Minnicog-anashene on the yachts of J. S. Playfair, of Midland. and P. Paton, of Collingwood, and were the guests of Mr. and Mrs. Playfair at a most enjoyable luncheon at the Minnicoganashene There were dances at the Penetanguishene hotel both evenings.

The arrangements for the trip, including the location of the rooms at the Penetanguishene hotel, were admirably carried out by the Association's Secretary, T. Marshall.

The Northern Navigation Co. extended

an invitation for a trip on the steam-boat Waubic from Penetanguishene to Parry Sound and return, of which a number of the party availed themselves.

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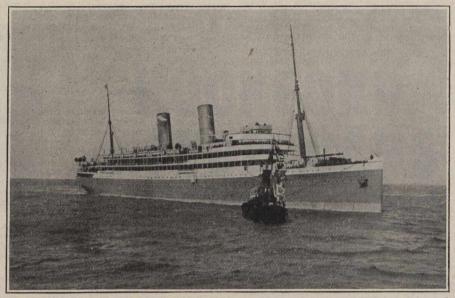
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From Bristol.

Steamer.

Thur., July 7 "Royal Edward"
Thur., July 21 "Royal George"
Thur., Aug. 4 "Royal Edward"

SAILINGS:

From Bristol. From Montreal. Thur., July 21 Thur., Aug. 18
Thur., Aug. 4 Thur., Sept. 1
Thur., Aug. 18 Thur. Sept. 15 Thur., July 21

Steamer. "Royal George" " Royal Edward" "Royal George"

From Montreal. Thur., Sept. 1 Thur., Sept. 29

and fortnightly thereafter. For full particulars, Rate, Booklets, etc., apply local agent, or Wm. Phillips, Acting Traffic Manager, Canadian Northern Steamships, Limited, Toronto, Canada.

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Railway Rolling Stock Notes.

The C.P.R. is reported to be in the market for one steam shovel.

The G.T.P.R. is reported to be in the market for one rotary snow plow.

The Intercolonial Ry. has received three postal cars from the Silliker Car Co., Halifax, N.S.

The G.T.P.R., has received 560 box cars, nos. 311325 to 311884, from the Canadian Car and Foundry Co., Mon-

The Northern New Brunswick and Seaboard Ry., has received one consolida-tion locomotive from the Canadian Locomotive Co., Kingston, Ont.

Williard Kitchen Co., Ltd., National Transcontinental Ry. contractors, Grand Falls, N.B., has added to its equipment ten 12 yard air dump cars built in the ILS.

The seven Intercolonial Ry. locomotives which were in the recent fire at Campbellton. N.B., have been taken to the shops at Moncton, where they will be rebuilt.

The C.P.R., between June 26 and July 14, received the following additions to rolling stock,—six sleeping cars, five first class suburban cars, two first June 26 and class cars, three baggage cars, one box baggage car, 45 freight refrigerator cars, 10 box cars, four vans and three D10 locomotives, all from its Angus shops,

Montreal.

The Ha Ha Bay Ry., has three locomotives, 49 flat cars and one steamshovel. One of the locomotives was purchased from the Montreal Locomotive Works, one, and the steam-shovel from Taylor and Arnold, Montreal, and the remaining locomotive from a railway contractor. It proposes to purchase one combined coach, eight or 10 box cars and two cabooses. box cars and two cabooses.

The C.P.R., between May 12 and June 25, received the following additions to rolling stock: 20 wooden box cars, one official car, three observation sleeping cars, five first-class cars, four second-class cars, 18 vans, eight baggage and express cars, seven G.2 locomotives, one D. 10 locomotive, two tank locomotives. From its Angus shops, Montreal; and 18 ballast cars and two steam shovels. ballast cars and two steam shovels.

Following are the chief particulars of Following are the chief particulars of the 1,500 box cars, which the G.T.R. has ordered from the Canadian Car and Foundry Co., Montreal:—
Capacity 30 tons
Under frames Steel
Length inside 8' 6"
Width inside 8' 6"
Height inside 5' 0"
Under frames 8' 6"
Width inside 5' 6"
Width inside 5' 6"
Width inside 5' 6"

Westinghouse

The Canadian Northern Ry., between June 15 and July 15, received the following additions to rolling stock,—380 flat cars, 15 stock cars, four parlor cars, from the Crossen Car Mfg. Co., Cobourg, Ont.; 15 box cars from the Silliker Car Co., Halifax, N.S.; 115 box cars, 60 steel ore cars and one dining car from the Canadian Car and Foundry Co., Montreal. Co., Montreal.

N. Curry, President Canadian Car and Foundry Co., Montreal, said in a recent interview:—"So great is the railway development in the Deminion that the outinterview:—"So great is the railway development in the Dominion that the output of cars from the works of the various Canadian concerns this year will exceed that of any preceding year by fully 50%. During the present year we will turn out 12.000 cars, even if we should book no further orders. Of this number, 4,000 have already been delivered. The value of the Canadian Car & Foundry Co.'s output from its three plants, amounts to \$1,200,000 a month."

Following are the chief details of the 300 flat cars nos. 361300 to 361599, which

the G.T.P.R. is having built by the Canadian Car and Foundry Co., Montreal, as mentioned in our last issue:

as mentioned in our last issue:

Capacity 60,000 lbs.

Length over end sills 36' 9 34"

Width over side sills 9' 0 34"

Width over floor 9' 3 34"

Height top of rail to top of floor 4' 1 14"

Journal boxes Grey iron.

Axles Steel.

Wheels M.C.B.

Brake beams and bolsters Simplex.

Couplers Janney.

Air brakes Westinghouse.

The C.P.B., between May 12 and June

The C.P.R., between May 12 and June 25, ordered the following rolling stock: 15 D.10 locomotives, five 280% Mallet locomotives, three first-class cars, one second-class car, one flanger, one pile driver, 1081 wooden box cars, one refrigered to the course 22 flat driver, 1031 Wooden box cars, one re-frigerator car, three stock cars, 22 flat cars and 22 vans. from its Angus shops, Montreal; three steel coal cars and 100 steel automobile cars, from the Canadian Car and Foundry Co., Montreal; 10 consolidation locomotives, part of the 35 mentioned in our June issue, from the Montreal Locomotive Works, and one 70-ton steam shovel, one 90-ton steam shovel and one 60-ton-pull unloader.

Following are the chief details of the 200 box cars, nos. 312325 to 312524, which the G.T.P.R. is having built by the Canadian Car and Foundry Co., Montreal, as mentioned in our last issue: Montreal, as mentioned in our last issues Capacity 60,000 lbs. Length inside 36' 0"
Width inside 8' 6"
Height inside, floor to carlin 8' 0"
Width at eaves 9' 7 ½"
Height top of rail to running board.13' 5 ½"
Centre to centre of trucks 26' 9 ¾"
Journal boxes Grey iron.
Axles Steel.
Wheels Cast iron, M.C
Brake beams and bolsters Simplex. Axies Steel.
Wheels Cast iron, M.C.B.
Brake beams and bolsters Simplex.
Couplers Janney.
Air brakes Westinghouse.
Inside roof Metal.

Following are the chief particulars of the 1,000 twin hopper coal cars, which the G.T.R. has ordered from the Cana-dian Car and Foundry Co., Montreal:—

Following are the chief details of the double ended locomotive, 2-4-2-T-80 type, which the Ha Ha Bay Ry., has ordered from the American Locomotive Co., as mentioned in our last issue, and which will be built by the Montreal Locomotive Works:—

12 FIRST-CLASS CARS.

Length over buffers
Truck centres
Total wheel base
Total wheel base
Width over all at eaves
Width between deck sills
Height top of sill to bottom of plate6' 10"
Height over roof boards
Vestibules Pullman wide type C, both ends.
PlatformsStandard steel.
Inside finish
DeckFull Empire.
Heating Safety Car Heating and Lighting
Co.'s combination steam and hot water.
LightingPintsch gas.
Brakes Westinghouse P1612.
TrucksStandard.
Journals 5" x 9"
Journal boxes
Wheels
, , , , , , , , , , , , , , , , , , , ,
THREE DINING CARS.

Length over end sills
Length over platforms
Width over side sills
Width over all at eaves
Width between deck sills 5' 6"
Height top of sill to bottom of plate 6' 10"
Height over roof boards
Vestibules
Platforms
Heating Safety Car Htg. & Ltg. Co.'s com-
bination steam and hot water.
Lighting Electric and Pintsch gas.
Air brakes
Trucks Standard six wheel.
Wheels
Journal boxes
OR COLONICH CARS

23 COLONIST CARS.
Length over end sills
Length over buffers
Trucks centre to centre
Total wheel base
Width over sills
Width over all at eaves
Width between deck sills 5'0"
Height top of sill to bottom of plate 6' 10"
Height over roof boards
Vestibules
Platforms
Heating Safety Car Htg. & Ltg. Co.
Lighting
Brakes Westinghouse P1612.
Trucks Standard four wheel.
Wheels
Journals
Journal boxes

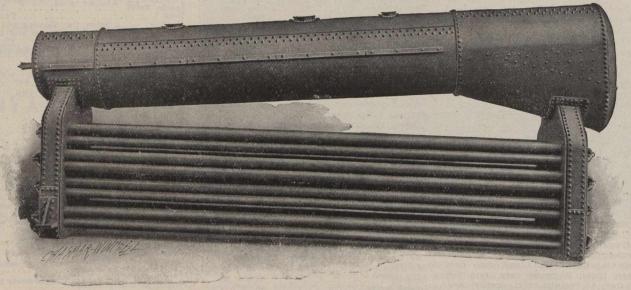
THREE SECOND CLASS CARS.

bourner boacs
Wheels
FIVE TOURIST CARS.
Length over end sills
Length over buffers
Truck centres
Total wheel base
Width over side sills
Width over all at eaves
Width between deck sills 5' 0"
Height top of sill to bottom of plate 6' 10"
Height over roof boards
Platforms Standard steel.
Heating Safety Car Htg. & Ltg. Co.
Lighting
Brakes
Trucks Standard four wheel.
Journals 5" x 9"
Journal boxes
Wheels

The state of the s
FOUR MAIL AND EXPRESS CARS.
Length over end sills
Length over buffers
Truck centres
Total wheel base
Width over side sills 9' 8"
Length inside express end
Length inside mail end
Width over all at eaves
Width between deck sills 5' 0"
Height top of sill to bottom of plate 6'7"
Vestibules Pullman dummy at both ends
Platforms
Inside finish
Heating Safety Car Htg. & Ltg. Co
Lighting
Brakes Westinghouse P1412
Manager Change of the state of
Trucks Standard four wheel
Journals
Journal boxes
Wheels 38" steel tired

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Canadian Northern Ry. Construction, Etc.

Canadian Northern Quebec Ry.—W. Mackenzie, President, and D. B. Hanna. Third Vice President, C.N.R., were present at a private meeting of the Quebec city council, July 7, to discuss the question of the location of the company's shops there. The city has been threatening to sue for the recovery of the \$200,000 bonus paid to secure the location of the shops in Quebec. Mr. Mackenzie stated that Quebec has always been held in view as the eastern terminus of the C.N.R., and when the line is in order this will be her destiny. The shops would have been built by this time had it not been for the entanglement of the affairs of the C.N.Q.R. and the Quebec and Lake St. John Ry. The latter company owned the land upon which it was proposed to build the shops, and until the existing trouble was got rid of no definite move towards the erection of shops could be made. In addition to building the shops in Quebec the company proposed to build a bridge across the St. Charles River so as to be independent of other companies, and to replace the burned grain elevator. As a result of the conference the city council decided to suspend action for some weeks.

The question of terminals in Montreal is still under consideration, and it is said that an official announcement as to the company's proposals will be laid before the city council at an early date. Local reports state that the property acquired embraces the area between St. Catherine and Sherbrooke streets, running west nearly as far as Aylmer St. and east to the property facing Bleury St.

Grading has been started on the new line from Hawkesbury, Ont., to Montreal, for which a contract has been let to J. P. Mullarkey, Montreal. As originally surveyed this line follows the Carillon and Grenville Ry., and from Grenville continues in an almost straight line to St. Eustache through St. Andrews and St. Benoit. The Cache river is to be crossed near Ste. Genevieve, but the route on Montreal Island has not been definitely settled.

Canadian Northern Ontario Ry.—W. Mackenzie, President, had a conference with the mayor of Ottawa, July 8, regarding the entrance of the company's Hawkesbury-Ottawa line into the city. The line at present stops just inside the city limits by reason of the refusal of the Board of Railway Commissioners to allow a level crossing of the Hurdman road. The matter was discussed in a general way and it is said that a proposal will be made for a slight diversion of the Hurdman road, so as to obviate the level crossing, and permit of a junction somewhere near Varsity oval with one of the existing lines by which entrance to the central station will be made, and that application will be made to the Board of Railway Commissioners in Sept. for approval of the route.

The question of the route of the Toronto-Ottawa line at Cobourg, was under consideration by the Board of Railway Commissioners' engineers, July 8. After a thorough examination of the whole matter and hearing what was said by the C.N.O.R., the G.T.R. and the town officials, the Board's Chief Engineer stated that it had been decided to recommend the following for the approval of the Commissioners: "That the changes proposed by the G.T.R., as per plan filed with the board and the town, be sanctioned with the exception of the spur track projecting northward from the north track, which would be disallowed so as to enable the C.N.O.R. to approach the Division street subway over the G.T.R. property close to the G.T.R. north track, as indicated on the C.N.O.R. plan presented."

Beyond Trenton, to which point construction is at present in progress, the final location of the route is being rapidly made. The question of the route to be followed in the vicinity of, and through Belleville is under the consideration of the Board of Railway Commissioners' engineers. The plans show that the route will cross the Brockville, Westport and Northwestern Ry., (which has been acquired by Mackenzie, Mann & Co., Ltd., in the interests of the company) near Newboro. The line would have been carried through Westport, but for engineering difficulties in the way at Crow Lake. A divisional point will be located at the point of crossing the B.W. and N. Ry.

the B.W. and N. Ry.

In a recent interview W. Mackenzie, President, said:—"Forty miles of new track will be built this summer westerly from Selwood, and it is our present intention to begin building easterly from Port Arthur next spring, and keep the work up continuously until through connection is made.

Nepigon Ry.—We are advised that surveys are being made for this line from Nipigon Bay, crossing the C.P.R. transcontinental line near Nipigon station, northerly towards Lake Nipigon. It is not likely that construction will be started this year.

Duluth, Winnipeg and Pacific Ry.—We are officially advised that a contract has been let for the construction of a line from Duluth to Virginia, Minn., 75 miles, to Foley, Welch and Stewart, St. Paul, Minn. The contract covers the completion of the line, the company furnishing to the contractors the steel bridges and the track material. The work must be completed by Sept. 1, 1911. The line will pass through a rough country interspersed with a good deal of muskeg, necessitating a lot of rock blasting and filling. The right of way has been secured, and a good deal of the land required for terminals and wharfage accommodation in Duluth has been purchased. H. T. Hazen, Chief Engineer, returned to Duluth, from Toronto, July 11, in company with the contractor's representative. The work will be started at once. The location, said Mr. Hazen, of the passenger and terminal yards. roundhouse, repair shops, coal sheds, etc., will be in West Duluth, and arrangements will be made with some other roads for the use of trackage to the centre of the city. The location of docks is not yet determined, but an early settlement of this question is expected.

Canadian Northern Ry.—As a result of the recent inspection of the line by the President and the General Manager, orders have been given for extending the round house at Port Arthur, and it is said that an additional unit will be added to the railway plant there. The contract for the erection of the new shed, 600 by 40 ft. at the wharf has been let to Vigars & Co. A deputation representing the city asked the President as to the establishment of car shops, and Mr. Mackenzie said this would be taken into consideration just as soon as the eastern and western lines were linked up.

The extensive bush fires which raged along the Rainv River Valley early in July did considerable damage to the railway company's property. It is stated that 30 buildings, including stations, freight sheds, and water tanks were destroyed, besides \$50,000 worth of yard material, and 125 box cars.

The betterments being made on the line between Winnipeg and Edmonton includes the fencing of all the lines in Alberta; the relaying of the track with 80 lb. rails, and reballasting the line. Twelve steam shovels are at work in the gravel pits west of Winnipeg getting out ballast. The 60 lbs. rails which are be-

ing released are being utilized on branch lines, and new lines in the west.

A contract is reported let to Jas. Mc-Rae, Gladstone. Man., for the grading of the extension of the Oakland branch, for about 12 miles. The grading is now completed to a short distance beyond Totogan, on the west side of Lake Manitoba, and it is intended to extend it so as to link up with the spur from Ochre River on the line to Rose du Lac. The completed portions of the line are being ballasted, but it is not yet known when the gap between Sandy Eay and Rose du Lac will be closed up.

We were advised July 18, that tenders are to be called for at once for the erection of a hotel and station building at Brandon. Man.

In connection with the press report referred to in our last issue that surveys were being made for a line to run from North Portal to Melville, and on to Hudson Bay Jct., Sask., we are advised that this is not a C.N.R. line.

Judgment was delivered June 30 upon the application of the C.N.R. to have

Judgment was delivered June 30 upon the application of the C.N.R. to have the injunction, restraining it from trespassing on C.P.R. lands near Stettler, Alta., dissolved. The application was granted upon the C.N.R. undertaking to comply with all the statutory requirements and both companies must go to the Eoard of Railway Commissioners to have present and future difficulties as to crossing lands, irrigation ditches, etc., adjusted. It was expected that it would take about three weeks to adjust matters so as to enable construction to be proceeded with. The track laying gang reached Stettler at the end of June, and the work on the line is being pushed forward towards Calgary as fast as possible.

General Manager McLeod is quoted as having stated in a recent interview that engineers were engaged in surveying a proposed line from a point on the Vegreville-Calgary line, south of Stettler, parallel to the C.P.R. line, to cross the Calgary and Edmonton Ry, at Lacombe. This piece of line is evidently that intended to open up the Brazeau coal fields, as we were officially advised July 7, that the company's survey parties were then in the field locating a line from near Stettler to the Brazeau coal fields.

We were advised July 18, that a contract had been let for the construction of a line from a point about six miles south of Stettler westerly to Rocky Mountain House, and that it is expected to grade about 30 miles this year.

Canadian Northern Alberta Ry.—We are officially advised that the first section of the main line from Edmonton, Alta., is now under construction. It starts from St. Albert, a station on the Edmonton and Slave Lake Ry., 10 miles north of Edmonton, and proceeds westerly in the direction of the Yellowhead Pass. The work at present in hand is a 70 mile stretch extending to the Pembina River. The grading contract has been sub-let to McMillan Brothers, press reports state, and it is expected to have track laid by the end of the year.

Canadian Northern Pacific Ry.—The contract between the company and the British Columbia Government was formally completed June 24, at Victoria, when the Attorney General gave his certificate. A contract for grading the first 60 miles from Port Mann easterly has been let to the Northern Construction Co., of Winnipeg. A start was made clearing the right of way June 30, C. V. Cummings having charge of the work. For the first few miles the new line will parallel the Great Northern Ry. Co.'s line, on through the Chilliwack district to Matsqui Prairie, then on to Hope near where the present contract ends. The profile, plans and specifications for the route from Port Mann to Matsqui

THE ELECTRIC HEADLIGHT

The following letter was received under date of May 8, 1908, from Mr. J. W. Cleary, Travelling Engineer Pyle-National Electric Headlight Co.:

"I learn from the Master Mechanic here, that an engineer running between. discovered a broken rail with the Pyle-National Electric Headlight and made the stop without ditching his train. One or two pairs of wheels got off, but that was a small affair to what it would have been where a foot of the rail was broken off. Also an engineer running east of here found some cars shoved out on the main line. He saw them with the 'Electric' and made the stop without hitting them."

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CANADIAN Reached bythe

Prairie, described as mileage 59 to 91, were approved by the Government, July 4.

The plans for the Port Mann-Matsqui section of the line show that there will be four stations between the terminals, one midway between Bon Accord and Langley, the second outside the townsite of Langley, the third just east of Cromarty Slough, and the fourth near the Mission bridge. The line will be carried across the Government trestle to Bon Accord. Near Mount Lehman the line will leave the river, crossing the C.P.R. Sumas line about a mile-and-half from the Mission bridge.

Application has been made to the

Application has been made to the Kamloops council for a grant of land to secure the line entering the city. The company asks the city to give it the land lying between lot 8, block 2, and Ratchford's store, and a way out east of the town and in return the company would place its station and yards on this site; build a traffic and railway bridge across the South Thompson, immediately commence the line, yards and shops, and make Kamloops the centre of its construction operations in each direction. It might require certain yards on the Indian Reserve for its through freight in addition to this. The matter is under consideration.

An additional survey party has been sent out to locate a line in the north part of Vancouver Island. (July, pg. 553).

Trade and Supply Notes.

The matter which appears under this heading is compiled, in most cases, from information supplied by the manufacturers of, or dealers in, the articles referred to, and in publishing the same we accept no responsibility. At the same time we wish our readers to distinctly understand that we are not paid for the publication of any of this matter, and that we will not consider any proposition to insert reading matter in our columns for pay or its equivalent. Advertising contracts will not be taken with any condition that accepting them will oblige us to publish reading notices. In other words, our reading columns are not for sale, either to advertisers or others.

W. Chase Thomson, M.Can.Soc.C.E., resigned his position as assistant engineer of the Dominion Bridge Co., Montreal, at the end of June and assumed charge of the Canadian office of the Cleveland Bridge and Engineering Co., Ltd., of Darlington, Eng., in the Canadian Express Building, Montreal.

The Fairbanks-Morse Canadian Mfg. Co., Ltd., has completed a warehouse building 135 by 80 ft., basement and four stories, on Bloor St. West, Toronto, to store goods so that orders may be promptly filled from stock. It is intended to increase the machine shop output 75%, to double the foundry capacity and to install a brass foundry, for the purpose of manufacturing gas tractors.

the purpose of manufacturing gas tractors.

The Silliker Car Co., Ltd., Halifax, N.S., is increasing its capital stock to \$750,000 by the issue, at par, of \$250,000 7% cumulative preference stock, one half of which has been offered to the public. The prospectus states that the company has on hand "large contracts for freight cars, first-class passenger cars and sleeping cars for the Canadian Northern, the Intercolonial and other railways, and is turning out an average of three freight cars daily." A car wheel moulding department has been added to the plant.

Cammell, Laird & Co., Ltd., Sheffield, Eng., which is represented in Canada by F. H. Hopkins & Co., Montreal, rolled recently at its Grimesthorpe Steel Works, what is claimed to be the largest mild steel plate ever produced in England. The ingot utilized weighed 120 tons, its dimensions being 9 ft. by 5 ft. 10 ins. by 18 ft. 1 in., and the charge was obtained from three furnaces. The ingot

THE QUEBEC BRIDGE.

In speaking at	Fort William, Ont.,	recently, Hon.	G. P.	Graham,	Minister	of
Railways, gave the	following facts:-					

Quebec	Bridge.		Forth Br	idge.
Total length of cantilevers	. 2,930	ft.	5,349.5 ft.	
Number of channel spans	. 1		2	
Length of longest channel span	. 1,758	ft.	1,710 ft.	

Roadways on bridge ... 2 elec. railway tracks. 2 ry. tracks. 2 railway tracks. 2 highways. 2 sidewalks.

The caisson for the north pier of the Quebec bridge is 180 by 56 ft. square, and over 60 ft. high, requiring approximately 3,000,000 ft. of timber, 90% of which is 12x12 in. Southern pine. Nearly 70 tons of bolts are required in its construction. At the lower depths to which the caisson will be sunk the men are working under a pressure of about four atmospheres. At this depth men can only work for about two one-hour shifts in the 24 hours, for which they receive a full day's pay. The north pier will be built entirely new and carried down some 60 ft. below the bed of the river to rock. For the south pier the old foundation will be utilized and enlarged, but will not rest on rock, as the present foundation has been found good. Work will go on night and day, and a force of about 2,000 men required. The caisson for the south pier will be built this winter and sunk next season. Between 40,000 and 50,000 barrels of cement will be required in the construction of the north pier alone, and about 125,000 barrels for the entire work.

The weight per lineal foot of steel in the Quebec bridge is 2.30 times as great as that of the Forth bridge.

The load for which the Quebec bridge is designed is 2.98 times as great as that for which the Forth bridge was designed.

The Forth bridge has 4.77 lbs. of carbon steel for every pound of live load it is designed to carry. The Quebec bridge has 3.90 lbs. of nickle steel for every pound of live load it is designed to carry.

The prescribed test load for the Quebec bridge is 4 1-3 times heavier than that used for the Forth bridge. Test pieces of the compression chord of the old Quebec bridge broke at 26,850 lbs. per square inch. Test pieces of similar chords for the new bridge broke at 56,800 lbs. per square inch. The new chords are therefore more than twice as strong per square inch as the old ones.

The maximum section of the compression chords of the old bridge was 843 square inches; in the new bridge the maximum section is 2,037 square inches. According to the tests the old chords would break under a pressure of 22,634,000 lbs., and the new ones under a pressure of 115,701,000 lbs. The new chords are therefore more than five times as strong as the old ones, although the live load of the new bridge is only about twice as heavy as the live load of the old bridge.

was stripped the following day after casting, taken from the casting pit, and within one hour charged into a horizontal re-heating furnace. The ingot was slabbed down under a 4,000-ton press to 12 ft. 9 ins. by 9 ft. by 40 ins., re-heated and rolled into a plate 18 ft. by 10 ft. 9 ins. by 25% ins., the latter operation occupying 45 minutes. When the scrap was removed and the plate machined at Cyclops, the approximate finished weight was 65 tons. Transit between the two works was by road, three heavy traction engines being required for the purpose.

Dominion Subsidy Contract.—On July 5, a contract was entered into under the act granting subsidies in aid of the construction of certain railways, between the Dominion Government and the Kettle River Valley Ry., for the construction of a line from the company's existing line near Grand Forks, B.C., along the north fork, and the east and west fork of the north fork of the Kettle River, for 50 miles.

The Canadian Northern Ry., has acquired a third interest in the railway's building at the Toronto exhibition grounds.

The C.P.IR. floral department, has offered a series of prizes for the best kept gardens at stations, roundhouses, etc., in each grand division, and special prizes for the best photographs of gardens at the stations.

The first daily passenger train of the G.T. Pacific Ry. reached Edmonton, Alta., July 4. The schedule time for the trip from Winnipeg is 30 hours. A fast freight service has also been inaugurated, the run occupying 60 hours.

Vancouver Island Logging Railway.—A 20,000 acre timber area near Port Renfrew, on Vancouver Island, B.C., has been purchased by St. Louis, Mo., parties. It is intended to build a logging railway in order to develop the property, Port San Juan being the point on the water front to which the line will be built. C. C. Michener, President of the Red Fir Lumber Co., Nanaimo, B.C., is interested in the new company.

The assessment of the Canadian Northern Ry. property at Port Arthur, Ont., has been fixed at \$125,000, by the court of revision.

There has been listed on the New York stock exchange \$2,510,000 additional first mortgage 5% 50-year bonds of the Cuba Rd., making the total amount now listed \$11,310,000.

The motor car service which the C.P.R. recently inaugurated between Brandon and Minnedosa, Man., and other points has been abandoned, the power it is reported not being powerful enough to overcome the gradients.

The British Columbia courts have dismissed the action brought by M. Frewen and others against C. M. Hays and the G.T. Pacific Townsite and Development Co., for specific performance to sell 1,000 lots at Prince Rupert.

A. Labond, brought an action in the Quebec courts to recover \$12,000 from the C.P.R., alleging that the value of his property on St. Paterick St., Montreal, had been depreciated to that extent, by the building of the C.P.R. branch to the Canada Sugar Refining Co.'s premises. The action was dismissed, the court holding that Labond had failed to prove any material damage.

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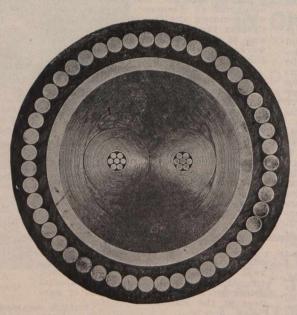
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Ontario Lines secured by Mackenzie, Mann & Co.

The Ontario and Ottawa Ry. Co. was incorporated last session of the Dominion Parliament to construct a railway from the Canadian Northern Ry. near Lake Couchiching, easterly to Snowdon tp., Haliburton county, Ont., and from Herschell tp., Hastings county, easterly to Renfrew, thence crossing the Ottawa River and continuing generally southeasterly to Hull, Que., or recrossing the Ottawa River to Ottawa. The company is authorized to enter into agreements with the various Mackenzie, Mann & Co. lines, and also with the Central Ontario Ry., the Marmora Ry. and Mining Co., the Thousand Islands Ry., the Bay of Quinte Ry., the Brockville, Westport and North Western Ry., and the Bessemer and Barrys Bay Ry., and to issue consolidation stock in respect of the lines acquired lines acquired.

As stated in our last issue, the Brock-Westport and Northwestern Ry., ling from Brockville to Westport, extending Ont., 45 miles, has been secured by the Mackenzie & Mann interests for amalgamation with the Canadian Northern

Ontario Ry.

The Ontario Legislature in 1870 incorporated the Brockville and Westport Ry. Co. to build a line between these two points, and the act was amended in 1873, but nothing appears to have been done under it. In 1884 the Brockville, Westport and Sault Ste. Marie Ry. Co., was incorporated by the Ontario Legislature and amending acts were passed in subsequent years. The Dominion Parsubsequent years. The Dominion Parliament in 1885 voted a subsidy for the construction of 45 miles from Brock-ville to Westport which was re-voted in 1889, and the unpaid balances were revoted in subsequent years, but were not paid, as the company never brought the line up to the standard. After some years the company got into difficulties, and the line was sold by the bondholders. The new owners secured a charter from the Dominion Parliament in 1903 for the Erockville, Westport and North West-ern Ry., and the line was brought up to the Government standard, an arrange-ment being made under which the new company paid about \$200,000 to satisfy judgment creditors of the old company for construction supplies, before the balance of the subsidy was paid in 1906. The company has power to extend its line northerly, and to connect with U. S. lines at Morristown, N.Y., by means of a bridge or ferry.

The company owns 45 miles of single track main line laid with steel rails, with two miles of yard track and sidings. There is one steel bridge having a 69-foot span, 31 wooden bridges, the long-est span being 65 feet; 19 short combination bridges, and two trestles, one of 575 feet and one of 700 feet, on the line. There are 35 level crossings, and the line is carried under one bridge which is 325 feet above rail level. The company's rolling stock at June 30, 1909, included four locomotives. 20 freight cars, one car in the company's service, and 10 passen-

ger cars.

The capital outstanding, June 30, 1909, was: Common stock, \$900,000; bonds, \$450,000. The company has received by

\$450,000. The company has received by way of subsidies. \$140,800 from the Dominion and \$116,000 from municipalities.

A special meeting of shareholders has been called to be held at Brockville, Ont., Aug. 8. for the purpose of considering and, if thought fit, of accepting the resignation of some or all of the officers and directors of the company; of filling up any vacancies so created, and of transacting such other business as may be transacted at an annual general meeting. meeting.

At a meeting at Brockville, Ont., July 13, F. T. Lewis, C. Heilshorn, and A. P. Van Tuyl, of New York, resigned

from the directorate and two other directors having disqualified themselves by the transfer of shares. D. B. Hanna, F. H. Phippen, J. D. Morton, G. G. Ruel, B. C. Vaughan, and R. P. Ormsby, were elected in their places. Subsequently D. B. Hanna was elected President; J. D. Morton, Vice President, R. P. Orsmby, Secretary, and L. Mitchell Treasurer. All the new directors and officers are connected with the Canadian Northern Ry The old directors who remain on the board are W. H. Comstock, J. Cumming, R. Bowie, W. C. Fredenburg and W. S.

R. Bowie, W. C. Fredenburg and Ruell of Brockville.

The Irondale. Bancroft and Ottawa Ry. had been acquired at the time the act was passed, and since then the Brockville, Westport and North Western Ry., and the Central Ontario Ry., with its leased line—the Marmora Ry. and Mining Co.—have been acquired. These Mining Co.—have been acquired. These lines have a total length of 242.73 miles with legislative authority to extend, for which extensions there are subsidies available. The provisional directors of the company are:—G. G. Ruel, G. F. Macdonnell, R. H. M. Temple, A. J. Reid, R. P. Ormsby. Notice has been given that application will be made to the Board of Railway Commissioners by the companies named for a recommendation to the Governor-in-Council to sanction agreements for conveying to the Ontario and Ottawa Ry. Co. the four several railways. It is understood that the O. and O. Ry. Co. as soon as the amalgamations have been properly ratified, will issue consolidated stock in respect of the mileage, and that in time the lines will become part of the Cana-dian Northern Ontario Ry.

The Prince Edward County Ry. was incorporated by an act passed by the Ontario Legislature in 1873, and name was changed to that of the Central Ontario Ry. in 1882. In 1884 the company's railway was declared to be a work for the general advantage of Canada. Various other acts have been passed by the Dominion Parliament, as well as by the Ontario Legislature,, granting various powers to the company, and extending the time within which it might construct its authorized lines. The lines constructed by the company extend from Pictou to Trenton Junction, 32.17 miles; from Trenton Junction to 32.17 miles; from Trenton Junction to Coe Hill, 72.60 miles, and from Ormsby Jct. to Maynooth, 35.36 miles; total 140.13 miles. The company has under construction an extension from Maynooth northerly towards Whitney station, on the G.T.R. Canada Atlantic branch. The company also operates under lease the Marmora Ry, and Mining Co.'s line, 9.60 miles, to which reference is made further on. The whole of the 149.73 miles is laid with steel rails. It has 15.50 miles of yard track and sidings, and operates over half a and sidings, and operates over half mile of another company's yard tracks. There are 11 iron bridges aggregating 1,134 ft. in length, the longest being 490 ft., and the shortest 34 ft., and one wooden bridge of 45 ft. on the line; together with 116 unguarded level crossings, and one bridge carrying a highway over the track. The company owned June 30, 1909, one switching and 15 passenger locomotives; 12 passenger cars; 53 box cars. 181 flat cars, 11 stock cars, 10 coal cars, and four cars in the company's service. The amount of common stock outstanding June 30, 1909, was \$3,340,000. and there were also \$1,000,000 of bonds outstanding. During the construction period the company received aid as follows: Dominion, \$179,466; Ontario, \$263,000; municipal,

The old Parliament of Upper Canada incorporated the Cobourg, Peterborough and Marmora Ry. Co. In 1868 the Ontario Legislature passed an act recognizing and extending the com-

pany's powers, and in the following year another act was passed legalizing the amalgamation of the railway company amalgamation of the railway company with the Marmora Iron Co., the title of the concern being the C., P. and M. Ry. and Mining Co. Other acts were passed and in 1887, after the sale of the company's bonds under an order of the chancery court, the Dominion Parliament incorporated the Colored Relation ment incorporated the Cobourg, Elairton and Marmora Ry. and Mining Co. to take over the property, etc., acquired, and to build the railway, and in 1889 the town of Cobourg was authorized by the Ontario Legislature to aid the company in the construction of its railway. There was another re-arrangement of affairs and in 1891 the Ontario, Belmont and Northern Ry. was incorporated by the Ontario Legislature, and a line authorized to be built from Hastings to Marmora, about 31 miles. In 1900 the Legislature authorized the company to change its name to the Marmora Ry, and Mining Co. The line constructed and opened for traffic in 1896 extends from Central Ontario Jct., to Wanston, 9.60 miles, and when it has been operated it has been under lease by the Central Ontario Ry. It does not own any and Northern Ry. was incorporated by ated it has been under lease by the Central Ontario Ry. It does not own any rolling stock, and no information is available as to its stock and bond indebtedness, or in regard to the result of its operations, the latter figures being included in those of the Central Ontario Ry. An old report places the tario Ry. An old report places the capital stock at \$250,000 of which there had been paid in \$115,42£ out of \$130,000 subscribed, and \$100,000 of 6% bonds; in addition to which there was a floating indebtedness of \$4,218. The cost of the line was given of the line was given as \$265,291, to-wards which there had been bonuses as follows:—Dominion, \$30,720; Ontario, \$19,149. The same report gave the offi-\$19,149. The same report gave the olincers as follows: President, C. A. Masten, Toronto: Treasurer, C. A. Millener, Deseronto, Ont.: Trustee for the bondholders, J. A. McGillivray, Toronto.

The officers and directors of the Central Ontario, By are: President, C. E.

The officers and directors of the Central Ontario Ry. are: President, C. E. Ritchie; Vice President, J. J. Warren, General Manager, G. Collins; other directors, J. H. Moss, E. B. Stockdale; Treasurer, J. D. Rowe; Chief Engineer, J. D. Evans; Superintendent, G. A. Hoag. The chief offices and operating head-quarters are at Trenton, Ont.

The Irondale. Bancroft and Ottawa Ry., which has latterly been operated under a temporary lease by the Central Ontario Ry., by G. Collins, General Manager, was acquired by the Mackenzie, Mann interests some time ago, as detailed in our issue for Dec., 1909, pg. 897.

New York Central and Hudson River Rd.—An issue of \$22,500,000 of 4½% equipment trust certificates has been sold in New York. A large amount of the long term notes were bought for London, Eng., and of the short term notes for Paris. France.

White Pass and Yukon Ry.—Gross earnings for May, \$150,737, and for 11 months ended May 31, \$1,098,475.

Sir John Murray, of deep sea exploration fame, who visited Canada recently, is a brother of the late James Murray at one time Superintendent C.P.R., at

The Ontario courts have dismissed an action brought by the C.P.R. to recover money paid on account of the death of one man, and the injury of another in one man, and the injury of another in a railway accident. The men were travelling on passes at the time of the accident in charge of horses belonging to Burns & Sheppard of Toronto, and the company claimed that its contract protected it against damages. A settlement was expected at the time of the accident, and the company afterwards sought to recover from the men's employers the amount of money paid under the settlement.

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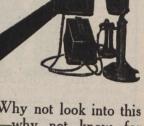
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TORONTO, CANADA, AUGUST, 1910.

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Tollman Proga & Motal Co	
Tallman Brass & Metal Co Cove	
Tate Accumulator Co	670
Tate, Jones & Co., Inc.	702
Taylor & Arnold	660
Toronto Bolt & Forging Co., Ltd	
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MAINLY ABOUT PEOPLE.

H. J. Squier, Assistant Sales Agent Dominion Coal Co., died at Sherbrooke, Que., June 30, after a short illness.

Sir Wm. C. Van Horne, has been appointed a member of the Boulevard Commission for Montreal.

H. H. Morse, formerly Manager Levis County Ry., at Levis, died at Southbridge, Mass., July 4.

J. T. Arundel. General Superintendent Manitoba Division, C.P.R., returned to Winnipeg, July 11, from Great Britain.

H. R. Charlton, General Advertising Agent G.T.R. and G.T.P.R., is on a trip over the G.T.P.R., west of Edmonton.

A. D. Cartwright, Secretary Board of Railway Commissioners, and his family, are in Prince Edward Island for the holidays.

A. W. Smithers, Chairman G.T.R., London, Eng., has been elected a director of the South Eastern and Chatham Rv. there.

R. Forget, M. P., has given \$25,000 towards the fund of \$500,000 which it is proposed to raise for the Notre Dame Hospital, Montreal.

Mrs. C. Breithaupt, who died at Berlin, Ont., July 6. was mother of W. H. Breithaupt, President Berlin and Bridgeport Electric St. Ry.

Lady Shaughnessy and the Misses Shaughnessy arrived at their summer residence, St. Andrews-by-the-Sea, N.B., July 6, for the season.

A number of boy scouts sailed from England in July, for Canada, at the invitation of Sir Thos. G. Shaughnessy, for a few weeks camping tour.

Judge Leboeuf of the Montreal Circuit Court, is reported to have declined the offer of a membership of the Government Railways Managing Board.

J. W. Loud, Freight Traffic Manager G.T.R., who left May 28 with his wife and two daughters for a holiday trip to Europe, returned to Montreal July 1.

The Hudson Bay Co.'s shareholders at the recent annual meeting in London, Eng., decided to present to Lord Strathcona, a portrait of himself in oils.

L. A. Vallee, Chief Engineer of the Department of Public Works, Quebec, has also been appointed engineer of the Quebec Public Utilities Commission.

J. W. Morris, of the Reid Newfoundland Co.'s electrical department, St. Johns. Nfld.. was married to Miss M. T. Robeley, at Truro, N.S., July 11.

Miss F. M. Stephens, daughter of C. E. Stephens, secretary-treasurer Northern Navigation Co., was married at Collingwood, Ont., recently, to R. P. Findlay

Lord Strathcona has given £300,000 to the Barnardo Homes for Destitute Children, London, Eng., the interest of which is to be used in bringing children to Canada.

Jas. Ross, Montreal, ex-President Dominion Coal Co., and his family, are spending the summer at his seaside residence, Sydney. N.S., having left Montreal July 4, on his yacht, Sheelah.

Hon. L. J. Forget, C.P.R. director, was taken seriously ill while on a holiday trip on the Lonaventure River, July 4, and was removed to his summer residence at Senneville, Que.

S. Shackell, who was in the G.T.R. executive office for a number of years, and since his retirement has been engaged in the real estate business, died in Lachine, Que., July 7.

F. C. Meyers, local agent Great Northern Ry., at New Westminster, B.C., disappeared June 27. His books have been audited and found correct. No ap-

parent cause exists for his disappearance.

J. D. Landers, who was appointed Trainmaster for the C.P.R. at Brandon, Man., in 1882, and for many years has been a conductor in the company's service, died at Hot Springs, Ark., June 28.

Hon. H. R. Emmerson, ex-Minister of Railways and Canals, has been appointed trustee under the will of Mrs. J. de W. Spurr, St. John. N.B., of which he and each of his four children are beneficiaries.

J. A. McKinnon, who has been appointed Superintendent of the Wilmar Division of the Great Northern Ry., at Wilmar, Minn.. is a native of Pictou, N.S., and was at one time in the Intercolonial Ry. service.

R. H. Munns, for over 20 years in the L.C.R. storekeeper's office at Moncton, N.B., was presented with an address, suit case and umbrella, by the staff, recently, on leaving the service, to take up his residence in Vancouver, B.C.

Frank Smith, for many years a resident of Sarnia, Ont., who died there June 30 after being ill for nearly a year, had been a director of the Sarnia St. Ry. for the past 10 years and was largely instrumental in securing its success.

A London cablegram says that the Chapter of the General Order of St. John of Jerusalem has awarded C.P.R. Conductor T. Reynolds a silver medal for his bravery in the Spanish River disaster last winter.

An incendiary, who has been giving some little trouble in the neighborhood of Midland, Ont., attempted to set fire to the residence of Jas. Playfair, President Inland Lines, Ltd., there, July 9.

L. Black, assistant resident engineer National Transcontinental Ry., Barrington, N.S., who was seriously injured by falling from a locomotive, as mentioned in our last issue, died July 14, at Moncton hospital, aged 23.

J. A. Grant, of Grant Bros., railway contractors, Los Angeles, Cal., and Mrs. Grant, after spending some time in their native place in Glengarry county, Ont., sailed from New York, July 20, for a European tour.

Lord Strathcona has subscribed \$1,000 to the fund for the erection of a South African memorial at Toronto, which contribution will enable the committee to complete the monument on the lines originally outlined.

C. L. Wellington, Traffic Manager Colorado and Southern Rd., Denver, Col. who died there. July 8, was for some time in the late seventies, in the service of the Chicago and Grand Trunk Ry., now part of the G.T.R. system.

J. Loomis, roundhouse foreman Michigan Central Rd., St. Thomas, Ont., was presented with a set of carvers and some pieces of silver, by the company's employes, at St. Thomas, on the occasion of his marriage, recently.

J. F. Richey, who died at Mount Clemens, Mich., recently, was for some years connected with the C.P.R. fuel department, but since 1907 has been associated with the Hosmer Mines, Hosmer, B.C.

The firm of Reid Brothers has been constituted with head office in Montreal. It comprises W. D., H. D. and R. G. Reid, sons of the late Sir R. G. Reid, and controls the Reid Newfoundland Co., and looks after the varied Reid estates and interests.

A. Allan, Master Mechanic Temiskaming and Northern Ontario Ry., was presented with a cabinet of silver by the locomotive drivers at a dinner at North Bay, July 1, on his leaving the service. He was also presented with a grandfather's clock by the office staff.

R. W. Leonard. C.E., who had charge of a good deal of construction work on

the C.P.R. between Montreal and Ottawa, and Toronto and Ottawa, has been appointed a member of the Board of Governors of Toronto University, Vice Goldwin Smith deceased.

S. H. Chapman. President and General Manager Ontario Wind Engine and Pump Co., Toronto, was presented with a silver service recently, by the directors and office staff, on the occasion of his fiftieth birthday, and the completion of his twenty-fifth year of service with the company.

Hon. Maurice Gifford, C.M.G., director B.C. Electric Ry., British Empire Trust Co., and Canadian Northern Prairie Lands Co., died at Hoddesdon, Eng., recently. He served with the French scouts in the Riel rebellion and also with distinction in the last Matabele rising, where he lost an arm.

S. O. Greening, President of the B. Greening Wire Co., Hamilton, Ont., who was some time ago operated on at the Mayo Hospital, in Rochester, Minn., for internal trouble, returned home recently. He is considerably improved in health, but will spend the balance of the sum mer recuperating in Muskoka.

As a memorial to the late E. Fisher, Superintendent, the Toronto, Hamilton and Buffalo Ry. Co. is furnishing a ward to be called the Fisher ward, in Hamilton City Hospital. The Governors, while accepting the gift. stated that they could not reserve the beds in the ward specially for the use of the company's employes.

G. I. Evans. whose appointment as Mechanical Engineer C.P.R., is mentioned on another page, entered C.P.R. service Apr. 1, 1900, since when he has been, to Mar., 1902, draughtsman; Mar., 1902, to Jan., 1907, Assistant Chief Draughtsman; Feb. to Aug., 1907, Locomotive Inspector; Sept., 1907, to June 30, 1910, Chief Draughtsman.

H. Croft, who built the Lenore and Mount Sicker Rv., and who married a daughter of the late Robt. Dunsmuir, of Victoria, B.C., has entered an action against Jas. Dunsmuir, and the other heirs of the Dunsmuir estates to recover \$4,600,000, for damages arising out of dealings with certain mineral lands in the Esquimalt and Nanaimo Ry. land belt.

C. Forrester, who has been appointed Trainmaster Buffalo and Goderich District G.T.R. was born Mar. 5, 1876, at Wanstead, Ont., and entered G.T.R. service June 20, 1891, since when he has been, to Aug. 20, 1899, operator; Aug. 20, 1899 to Aug. 20, 1906, train dispatcher, London, Ont.; Aug. 20, 1906 to Oct. 1, 1907, Night Chief Dispatcher, London, Ont.; Oct. 1, 1907 to July 1, 1910, Chief Dispatcher, London, Ont.

Andrew Halkett, who has been appointed Assistant Trainmaster District 2, Fritish Columbia Division, Kamloops was born at Ottawa, Nov. 11, 1876, and entered C.P.R. service Nov. 21, 1897, since when he has been to Jan. 13, 1902, brakeman, Cascade Section, Pacific Division, Vancouver, B.C.; Jan. 13, to Apr. 4, 1902, brakeman, District 3, Pacific Division, Nelson, B.C.; Apr. 4, 1902, to June 1, 1910, conductor, Nelson, B.C.

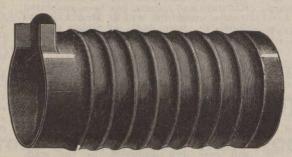
C. E. Friend, who has been appointed General Auditor Canadian Northern Ry., Winnipeg, was born at Brighton, Eng., Oct. 12, 1871, and entered Canadian railway service Jan., 1894, since when he has been, to Oct., 1896, private secretary to Traffic Manager C.P.R., Winnipeg; Oct., 1896, to June 1, 1901, assistant to Superintendent Canadian Northern Ry., Winnipeg; June 1, 1901, to July, 1910, Auditor Canadian Northern Ry., Winnipeg.

J. Irwin, whose appointment as Superintendent District 5 Canadian Northern Ry., Saskatoon, Sask., was announced in our last issue, was born at Clinton, Ont.,

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With Plain Ends or Flanged to any required shape.



Manufactured by

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Standard Explosives

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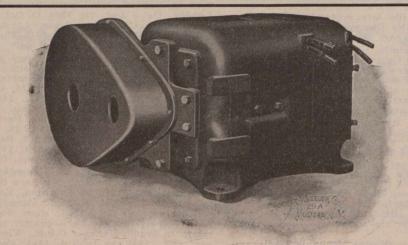
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May 28, 1866, and educated at Clinton public and high schools, Pickering college and Galt Collegiate Institute. He entered railway service, Jan. 1, 1883, since when he has been, to 1884, clerk G.T.R., Clinton, Ont.; 1884 to 1885, clerk in Audit Office Missouri Pacific Ry., St. Louis, Mo.; 1885 to 1886, brakeman Wabash Rd., St. Louis, Mo.; 1886 to 1896, conductor, same road; 1896 to 1901, Trainmaster, G.T.R., at Belleville, Ont., Richmond, Que., Detroit and Durand, Mich.. consecutively; 1901 to 1902, Trainmaster Southern Pacific Ry., Truckee, Cal., and Assistant Superintendent Denver and Rio Grande Rd., Salida, Cal., May 28, 1866, and educated at Clinton ver and Rio Grande Rd., Salida, Cal., consecutively; 1902 to 1903, Trainmaster G.T.R., Stratford, Ont.; 1903 to May 31, 1910, Trainmaster G.T.R., Lindsay, Ont.

G.T.R., Stratford. Ont.; 1903 to May 31, 1910, Trainmaster G.T.R., Lindsay, Ont. Ernest Walton, who has been appointed Master of Transportation Eastern Division G.T.R., Montreal, was born at London, Ont., Sept. 29, 1878, and entered G.T.R. service as messenger at Stratford, Ont., July 1, 1891, since when he has been from Mar., 1893, to July, 1896, stenographer to Master Mechanic, London, Ont.; July, 1896, to May, 1899, stenographer to Superintendent, Toronto; May, 1899, to Mar., 1901, secretary to Vice President and General Manager Central Vermont Ry., St. Albans. Vt.: Mar., 1901, to Feb., 1902, secretary and assistant to President Southern Pacific Rd., San Francisco, Cal.; Feb., 1902, to July, 1903, secretary to Vice President and General Manager Central Vermont Ry., St. Albans, Vt.; July, 1903, to Jan., 1905, chief clerk to Vice President and General Manager Central Vermont Ry., St. Albans, Vt.; Jan., 1905, to Sept. 30, 1909, chief clerk to Third Vice President G.T.R., Montreal: Sept. 30, 1909, to July 16, 1910, Travelling Car Service Agent Eastern Division - G.T.R., Montreal. treal.

G. W. Babbitt, Chief Train Dispatcher Michigan Central Rd., St. Thomas, Ont., died somewhat suddenly at his summer residence Port Stanley, Ont., July 12, aged 67. He was engaged in telegraph work during the U.S. civil war, and subsequently entered railway service with the Chicago, Burlington and Quincy Ry., leaving that company for the Michigan Central Rd. After becoming Chief Dispatcher at Jackson, Mich., he spent some time in Mexico, but returned to the Michigan Central Ry. in the early eighties, and was made Chief Train Dispatcher on the Canada Southern Ry., when it was taken over by the M.C.R., in Nov., 1883. He was one of those engaged in drawing up the standard operating rules which have just been put in ating rules which have just been put in force in Canada by the Board of Railway Commissioners; and a few days previous to his death received notification from the Commission that he was about to be appointed an examiner in about to be appointed an examiner in the train rules for the Board. He was President of the Railroad Hospital Association, and a director of the Railway Y.M.C.A. at St. Thomas.

y.M.C.A. at St. Thomas.

R. S. McCormick, whose appointment as Chief Engineer Algoma Central and Hudson Bay Ry., and Manitoulin and North Shore Ry., we announced in our last issue, was born at Quaker City, Guernsey co., Ohio, June 22, 1873, and entered Flint and Pere Marquette Ry., service at Saginaw, Mich., in 1890, since when, he has been, to Oct. 1894, chainman, rodman and general assistant to the Chief Engineer, consecutively, F. & P.M.R., Saginaw, Mich.; Oct. 1894 to May 1897, assistant and draughtsman, Division Engineer's office, G.T.R., Battle Creek, Mich.; May 1897 to Feb. 1900, Assistant Engineer Maintenance of Way G.T.R., Detroit, Mich.; Feb. 1900 to Apr. 1903, locating engineer Algoma Central and Hudson Bay Ry., Sault Ste. Marie, Ont.; Apr. 1903 to Jan. 1904, Assistant Engineer Maintenance of Way, Pere Marquette Rd., Saginaw, Mich.; June to

Aug. 1906, engineer on barge canal construction, Rochester, N.Y.; Oct. 1906 to June 1909, Assistant Engineer in charge of construction of 50 miles G.T.P.R. Lake Superior branch and Locating Engineer G.T.P.R. Regina north branch; July 1909 to May 1, 1910, Division En-gineer in charge of surveys Algoma Central and Hudson Bay Ry., Sault Ste. Marie, Ont.

P. G. Flaherty, who has been appointed Trainmaster District 3, Eastern Division G.T.R.. Richmond, Que., was born in Newberry county, Va., in 1866, and entered railway service in 1881, since when he has been, to Dec., 1883, operator Allegheny Valley Rd., New Bethlehem, Pa.; 1883 to 1886, dispatcher Buffalo, Rochester and Pittsburg Ry., Buffalo, N.Y.; 1886 to 1891, dispatcher Union Pacific Ry., Evanston, Wyo.; and subsequently dispatcher. at different points in Mexico on the Mexican International and Mexican Central Rds.; 1891 to 1898, dispatcher G.N.R. Kalispiel, Mont., and West Superior, Wis.; 1898 to 1899, dispatcher G.T.R., Battle Creek, Mich.; 1899 to 1901, dispatcher G.N.R., West Superior, Wis.; 1901 to Feb., 1903, dispatcher G.T.R., Island Pond, Vt.; Feb. to Sept., 1903, dispatcher Pere Marquette Rd., Grand Rapids, Mich.; Sept., 1903, to Oct., 1905, dispatcher G.N.R., White Fish, Mont.; Oct. to Dec., 1905, Night Chief Train Dispatcher Oregon Rd. and Navigation Co., Tekoa, Wash.; Jan., 1906, to Feb., 1908, Chief Dispatcher G.N.R., Spokane, Wash.; Feb., 1908, to 1909, Chief Dispatcher G.T.R. Eastern Division, Montreal. H. B. Sims, whose appointment as Assistant Division Engineer C.P.R., Moose P. G. Flaherty, who has been appointed Trainmaster District 3, Eastern

H. B. Sims, whose appointment as As-H. B. Sims, whose appointment as Assistant Division Engineer C.P.R., Moose Jaw, Sask., was announced in our last issue, was born at Philadelphia, Pa., Nov. 19, 1871, educated at Upper Canada College and School of Practical Science, Toronto. and entered railway service May, 1895, since when he has been, to June, 1896, rodman Toronto, Hamilton and Buffalo Ry.; June to Sept., 1896, draughtsman, Chief Engineer's office C.P.R.; Sept. to Dec., 1896, Massonry Inspector C.P.R.; Dec., 1896, Massonry Inspector C.P.R.; Dec., 1897, to Mar., 1897, draughtsman, Chief Engineer's office C.P.R.; Oct. to Dec., 1897, Bridge Inspector C.P.R.; Dec., 1897, to Mar., 1898, draughtsman Chief Engineer's office C.P.R.; Mar. to Nov., 1898, leveller, Toronto - Sudbury location, C.P.R.; Nov., 1898, to Sept., 1899, in Chief Engineer's office C.P.R.; Sept. to Oct., 1899, Bridge Inspector C.P.R.; Oct. to Dec., 1899, in charge of repairs to Sault Ste. Marie bridge, C.P.R.; Dec., 1899, to Apr., 1900, instrument man, Construction Department Abbotsford to Hope, B.C. location; Apr. to Oct., 1900, in Chief Engineer's office, C.P.R.; Oct., 1900, to May, 1902, Bridge Inspector C.P.R.; May, 1902, to Dec., 1903, Assistant Engineer Ottawa Northern and Western Ry.; Dec., 1903, to Apr., 1904, Resident Engineer District 5, Central Division C.P.R.; Apr., 1904, to Mar., 1907, Resident Engineer District 5, Central Division C.P.R.; Dec., 1907, to July 1, 1910, Resident Engineer District 5, Central Division C.P.R.; Dec., 1907, to July 1, 1910, Resident Engineer District 1, Western Division C.P.R. sistant Division Engineer C.P.R., Moose Jaw, Sask., was announced in our last issue, was born at Philadelphia, Pa.,

Inverness Railway and Coal Co.

Following are extracts from the report Following are extracts from the report for the year ended June 30, 1909, and submitted under the signature of Wm. Mackenzie, President, at the annual meeting in Toronto recently.

"For the year the output of your colliery was 277.394 tons, compared with 282,639 tons in the previous year. Your

directors regret to report that labor conditions in Nova Scotia were during the

year and still are, far from satisfactory. The difficulties which your company has had to face in common with the other great coal companies in Nova Scotia, and which culminated in the strike declared in June 1909, brought about largely increased costs, although the output of the mines has not for some months been interferred with. The operations of your colliery show a surplus for the year of only \$4.324.49. The gross earnings of your railway show a decrease as a result of the falling off in coal shipments. To efficiently maintain the physical condition of your railway it required somewhat heavier disbursements on account of rolling stock. and which culminated in the strike debursements on account of rolling stock, track, structures, etc., and in consequence the net revenue of your railway shows a material decrease. During the year various accounts of the company have been closely scrutinized, and in order to make allowance for the conditions and bad debts, the full amount of the contingency account provided a year ago has been absorbed. The underground workings of the mines have, as usual, been regularly inspected by the Provincial Government Inspector, and are in good condition. The physical condition of your railway is being fully maintained.

Railway and railway equipment,
Mines, mining plant, development, etc.

Sinking fund, to redeem first mortgage bonds

Operating Assets.—

Colliery and railway stores on hand

\$50,614.72

Colliery accounts and agents' and conductors' balances due
\$37.224.68 \$10,591,701.36 56,889.12\$37,224.68 Income account

\$11,198,186.31

LIABILITIES.

Capital stock \$7,500,000.00 -2,115,000.00

Loans applied in developing property, secured by treasury bonds.

Other advances to company
CURRENT LIABILITIES.—
Unpaid bills
Accrued interest on bonds, etc. 986.474.85 411.302.70 161,902.01

23,502.75 185,404.76

INCOME ACCOUNT. \$11,198,186.31

\$352,894.46

Hire of equipment \$184,365.56 1,570.14 -185,935,70 Operating expenses 115,128.63

\$538,830.16

Colliery—Gross earnings.\$490,394.61 Operating expenses 486,070.12 4.324.49 Railway-Gross earnings I187,230,22

- 72,101.59 Operation, boats, etc—
Miscellaneous

Debit Balance June 30, 1909\$461,756.43

By an arrangement between the Alberta and Saskatchewan Governments two actions have been brought against the C.P.R. to test the right of the pro-vinces to tax the C.P.R. lands. The cases were on the list to be disposed of

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National Transcontinental Railway.

In the course of an interview at Quebec recently, S. N. Parent, chairman of the Commissioners, said the line between Moncton and Winnipeg would be com-pleted by the end of 1912, and that while waiting for the completion of the Quebec bridge a car ferry would be used to take trains across the river. The plans for the construction of terminals in Quebec would be prepared as soon as the contract with the city for the pur-chase of the Champlain market site had been signed. A Quebec dispatch says that the deeds transferring this property will be signed Sept. 1. Mr. Parent, further stated in his interview that Cap Blanc and all the houses along the river front between Champlain market, and Sillery would have to disappear; the marine department shops would also have to go, and these would probably be rebuilt at Sillery. If the plan is at all feasible the union station will be so built but it will connect by the read with that it will connect by the roof with Dufferin Terrace. Referring to the work done on Divi-

Referring to the work done on Division B, which extends from the New Brunswick boundary to 330 miles west of Quebec, a total of 507 miles, A. E. Doucet, Division Engineer, said July 6, that with the exception of a few breaks, such as the bridge over the Jacques Cartier River, and the yards at Cap Rouge, track has been laid for 188 miles from west of the Quebec bridge site to the St. Maurice River: and from eight the St. Maurice River; and from eight miles east of Waymontachene as far west as the Hudson's Bay post. Grading has been completed for 78 miles west of that point, and it is expected that by the end of the season track will be laid to the crossing of the Gatineau River, about 235 miles west of Quebec. All grading has been completed south of the St. Lawrence to the New Brunswick boundary, and a considerable mileage of track has been laid. The work of bridge construction and filling is being proceeded with, and as soon as this is finished track laying will be completed. Of the total of 507 miles in the division there are only 60 miles upon which grading

has not been done.

Tenders will be received by the Department of Railways to Sept. 1, for the superstructure of a bridge across the St.

The tenders Lawrence River at Quebec. must be accompanied by a certified bank cheque for \$100.000 as security that a contract will be entered into if the tender be accepted. The firms tendering are to accept the fair wage schedule prepared or to be prepared by the Department of Laboratory. partment of Labor, and to state when they can complete the work. The total they can complete the work. The total length of the bridge will be 3,232 ft., with a main span of 175 ft., against a length of 3,220 ft., and a main span of 1,800 ft. in the bridge which collapsed; while the width of the floor will be 88 ft. against 63 ft. The floor will provide for two railway tracks, two electric railway tracks, a highway, and a sidewalk. The steam railway tracks will be laid in the middle of the bridge, and on either side will be a highway, single electric railway track and sidewalk. While the cantilever plan of construction is favored by the Commissioners, the firms tendering the Commissioners, the firms tendering can submit a price for a suspension bridge. A Montreal dispatch of July 13 stated that M. Etterpeuring of London stated that M. Fitzmaurice, of London, Eng., and R. Modjeska, Chicago, Ill., had from the Commission on acresigned from the Commission of count of friction between the members, but the Deputy Minister of Railways, the same day, gave the story an emphatic denial.

The work of demolishing the approach spans of the collapsed bridge is being proceeded with, and the steelwork being taken out is being tested to determine its suitability for use in bridges else-

where. The removal of the debris of collapsed span is also going on, over 4,000 tons of steel having already been handled by the contractor

The caisson for the main pier of the new bridge was launched at Point Pizeau, July 7. It is 180 by 55 ft., and weighs about 1.800 tons. It was subse-

quently towed to position and sunk.
Sir Wilfrid Laurier, on the occasion of
his present trip to Western Canada travelled from Fort William, Ont., over the Lake Superior Branch of the G.T.P. Ry., and thence to Winnipeg over the completed section of the National Trans-continental Ry. The special train carry-ing the party is stated to have been the first passenger train over the line. A regular passenger service is to be put on early in August. The divisional point on the line between Lake Superior Jct. and Winnipeg is seven miles west of the junction, which has been named Graham, after the Minister of Railways. The town is situated on the shore of Period Control of Period Contr lican Lake, and the terminal yards cover an area of 100 acres, upon which it is proposed to lay out 17 miles of tracks. In an interview the Minister of Railways

"There seems to be no reason why the line cannot be used for hauling the grain crop of this season. Moreover, the line from Quebec east will practically be open for traffic, and possibly portions of it in Quebec. We find this portion of the roadway in better condition and nearer completion than anticipated. There is no difficulty in travelling 35 miles an hour. A good deal of track is absolutely completed. Parts will need another lift of ballast for the alignment of the track. Contractor McArthur will be finished in September. A permanent bridge has to be built over the Sturgeon River, but a substantial trestle bridge is doing service now. We further expect to effect arrangements by which trains will be hauled into St. John and Halifax this autumn. No one who has not travelled over this line has any idea of the difficulties which have been met and con-There are huge bridge construction and tunneling. Ballast had to be hauled great distances.
One sink hole required vast supplies of

dirt at a cost of \$200,000."

Referring to the arbitration as to classification on this section of the line, the preliminary report presented to the Government, June 29, shows that in section E, the overclassification amount is less than \$25,000, and on section F, to about \$200,000, against which it is claimed the Government is protected by the percentage of the amount of the contracts held back.

In the course of this recent visit to Winnipeg C. A. Young, a member of the Commission, met the Winnipeg Electric Ry. directors and discussed the diversion of their power line near Lac du Bonnet comes in connection with the National Transcontinental Ry. right of

Way.
Tenders have been received by the Commissioners for the supply of air, steam, water and oil piping system; the yard water system and pipe tunnels and wiring ducts required in connection with shops near Winnipeg; and for the construction of a sewer from the pump house and terminal yards there to the Seine River.

The substructure for the bridge over the Red River at Winnipeg has been completed, and the Dominion Bridge Co. is preparing to put up the superstruc-ture, which is expected to be completed is preparing to but up the superstruc-ture, which is expected to be completed by Sept. The substructure consists of two abutments and six piers. These piers are 72 by 22 ft. at the foundation, resting on solid rock, and are 65 ft. high, the dimensions at the top being 40 by 12 ft. The shore span, over navigable water, is to consist of a lift span. A

piece of line is being constructed from the river to the Canadian Northern Ry. freight shed on Water St. where the G.T. Pacific Ry. and the National Transcontinental Ry. lines meet. The method of building this piece of road bed is to go down 10 ft. and drive 45 ft. piles. The wide excavation is then filled with concrete, and high retaining walls are built to an elevation of approximately 20 rt. These walls are reinforced with steel, and are filled with gravel and concrete. The finished roadway has the appearance of a line of solid concrete 20 ft. high and 38 ft. wide. On this the G.T. P. Ry. trains will be carried from the river to the union station, which they will enter at the second floor. Over the city streets the trains will be carried on steel trusses, which will be supported by steel arches in the centre of the streets. For some distance from the river there will also be steel trestles to carry the

GRAND TRUNK PACIFIC RY.

President Hays returned to Montreas, July 6, from a trip to the West, and in an interview said: "The General Manager is of opinion that the line will be completed through to Prince Rupert by the end of 1912. It is all a matter of labor. It is a matter of astonishment to labor. It is a matter of astonishment to see how quickly all the newcomers dis-appear. Trainload after trainload of im-migrants are continually arriving in Winnipeg, yet within 48 hours they are all swallowed up, and what is more their coming does not appear to affect the labor market. When I was in Vancouver we wanted 100 laborers and offered 27½c. an hour, but I found that 30c. an hour was the lowest that would be considered."

A round house is to be built at the Mission, Fort William, Ont. Peare Bros. have the contract for the piling.

A train service has been out on the

branch line from Melville to

The bridge over the McLeod River, west of Edmonton, was expected to

west of Edmonton, was expected to be completed July 15, and it is hoped that track laying will be completed to Prairie Creek, if not to the crossing of the Athabasca River, this year.

A supplement to the deed of trust of June 24, 1909, dated June 30, 1910, made by the Grand Trunk Pacific Franch Line Co. to the Royal Trust Co., as trustee, and the Saskatchewan Government, as guarantors, securing 4% first mortgage sterling bonds share 1939, issued and to be issued under chap. 5 of the provincial be issued under chap. 5 of the provincial statutes of 1909, was deposited with the Dominion Secretary of State, July 5.
G. C. Emerson. a G.T.P.R. engineer

G. C. Emerson, a G.T.P.R. engineer from Prince Rupert, B.C., is reported to have stated in Toronto, July 12, that the construction gangs had reached 100 miles east from Prince Rupert, when he left, and it was expected that a train service would be placed in operation over it this year.

President Hays, during his recent visit to Vancouver, said several sites had been

to Vancouver, said several sites had been offered for terminals in that city, but nothing definite had been done nor had anything definite been done in regard to the negotiations for property at North Vannegotiations for property at North Van-couver, or the Hastings Mill site. It was reported that the company had acquired a block of property in Vancouver for office and terminal purposes, but Mr. Hays said in Montreal, July 6, that the company had not acquired any property for terminals there. All the energies of for terminals there. All the energies of the company were being centred on the completion of the line to Prince Rupert. Wharves were, however, being built at Seattle and Victoria for the steamship traffic. It was also the company's intention to build hotels at the principal points on the line, but nothing had been done in regard to one for Vancouver. done in regard to one for Vancouver. Rapid progress is being made with

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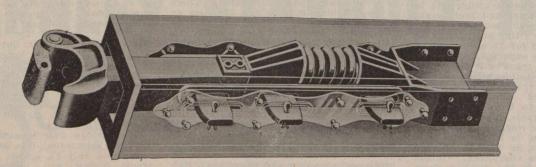
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the construction of the branch line from Tofield to Calgary, Alta. Several grading outfits are at work between the crossing of the C.P.R. Langdon branch near Irricana, and Calgary; and the whole of the grading has been completed between the Battle and the Red Deer rivers. The high level bridge across the rivers. The high level bridge across the Battle River was reported to be practically completed July 16. The only other bridge of any size on the route is that over the Red Deer river south of Alix. It is expected that by the time this bridge is completed grading will have been finished right into Calgary. The branch it is expected will be completed and in operation by the end of pleted and in operation by the end of the year.

Quebec Public Utilities Commission.

This Commission has recently had several cases affecting railways before it and has given the following decisions:

COMMUTATION OF FARES ON Q. & L. ST. J. RY.

Re T. Hamel vs. Quebec and Lake St. John Ry. and Canadian Northern Quebec Ry. Following is the decision: Complaint is made that the Q. & L. St. J. Ry. has unwarrantably increased the price of commutation tickets between Quebec and Lorette, from \$3.30 for 55 trips in 1909 to \$6, the tickets being only good for one month, and without any order by the Lieutenant-Governor-in-Council permitting of such increase. It is also incidentally urged that the freight rates charged are too high. In this complaint the Canadian Northern Re T. Hamel vs. Quebec and Lake St. this complaint the Canadian Northern Quebec Co. is impleaded as ostensibly Quebec Co. is impleaded as ostensibly operating the railway in question. The complainant asks for reimbursement of the excess paid by him and for enforcement of penalties. The Q. & L. St. J. Ry. in effect answers that the increased rate was necessary to prevent loss, and in the course of the proof endeavors to show it was practically agreed upon for the sake of an extra train leaving Quebec at 6.15 p.m. and returning the following morning. The C.N.Q. Ry. objects to the Commission's jurisdiction upon the ground that it comes under the jurisdiction of the Dominion Parliament. There being no evidence that the railway in tion of the Dominion Parliament. There being no evidence that the rallway in question is owned, operated, or in any wise controlled by the C.N.Q. Ry. Co., no order will go as to that company. From the proof made it appears that the present or summer schedule of trains is as follows:

QUEBEC AND LAKE ST. JOHN RAILWAY.

9.10 a.m.—Daily except Sunday for La Tuque,
Roberval, Chicoutimi, etc.

11.45 a.m.—Daily except Saturday and Sunday for
Lake St. Joseph, La Tuque, Roberval. Chicoutimi, etc.

9.15 a m.—Sunday only for St. Raymond.
1.45 p.m.—Saturday only for Lake St. Joseph.
5.10 p.m.—Daily except Sunday for St. Raymond.
6.15 p.m.—Daily except Saturday and Sunday for
St. Raymond.
10.00 p.m.—Saturday only for Roberval, Chicoutimi, etc., with sleeping car for Chicoutimi.

The conditions of number of trains, QUEBEC AND LAKE ST. JOHN RAILWAY.

The conditions of number of trains, times of arrival and departure, are in general satisfactory, and no complaint is in evidence as to the tolls charged, except for fifty five train, monthly commitin evidence as to the tolls charged, except for fifty-five trip, monthly commutation tickets. Lorette is only some 8½ miles from Quebec, while the above trains are run through to St. Raymond, 35 miles from Quebec, although from 70 to 90% of the passengers are not carried further than Lorette. The running of other than through trains beyond Lorette is contended by the railway to be justified upon the ground of want of terminal facilities at Lorette and the accommodation of passengers going to commodation of passengers going to points beyond. The publication of a proposed schedule of trains in April last, from which the second evening train at

6.20 or 6.15 was omitted, caused a protest from summer residents, and a delegation of them went to complain. At interview it was understood with the railway management an increased rate would be charged if the second train was would be charged if the second train was put on. As a result an increase of from \$3.30 to \$6 went into effect from May, while the extra train only commenced running from June 27. While a receiver has been appointed to the railway and its financial condition cannot be declared to be satisfactory, it is by no means in evidence that this state of affairs is materially attributable to the prices charged for commutation tickets in the past or would be seriously affectin the past or would be seriously affected by the increase from \$3.30 to \$6. The ed by the increase from \$3.30 to \$6. The statements submitted showing general loss from the operation of the suburban trains in question is very far from attributable to the service to and from Lorette. Considering that all tolls are subject to the Commission's approval and that it has authority to alter, fix and revise such tolls. R.S.Q. 6607 & 740d, and the question of their having been approved or otherwise by other authority is not now material to the matter. Conis not now material to the matter. Considering that a suburban service such as provided by the railway is a reasonable and proper one under the circumstances, and proper one under the circumstances, such as is customary and habitual, and to be expected of a railway enjoying the charter privileges of the Q. & L. St. J. Ry., and to the building of which the public money has been largely contributed. Considering that no sufficient cause has been shown for the increase to \$6 as above, nor that under the circumstances the expiry period of such 55 cumstances the expiry period of such 55 trip commutation tickets should be extended. Considering that for the service as rendered, and under all the circumstances of the case the following schedule of rates for 55 trip commuta-tion tickets, good for one month from date of issue, would be reasonable and proper, and is directed to go into effect

Train Dispatching by Telephone.

The following information relating to the mileage over which trains are operthe mileage over which trains are operated by telephone on Canadian railways, Canadian owned or controlled railways operating in the U.S., and U.S. railways operating in Canada, is taken from a table containing similar details in regard to American railways generally, compiled by the Telegraph and Telephone til further order is made for cause shown, and in any case such tickets not to be good after Nov. 1, at the com-pany's option, to wit: from the present date and continue un-

3.0—Charlesbourg													\$2.75
5.9—Charlesbourg)	u	28	t						-			3.75
8.5—Lorette													4.50
16.5—Valcartier							 						7.00
21.0—Ste. Catherine								10	0	10		. 7	8.40
22.8-Lac St. Josep	h							1			-		8.40
27.7-Lac Sargent .								3					9.50
30.2—Bourg Louis													10.50
34.3—St. Raymond													11.55

As to the remainder of the complaint respecting freight rates and charges, no order is presently made, but the same is reserved for further consideration.

is reserved for further consideration.

Re A. Boissonneault & al vs. Quebec & Lake St. John Ry. Co. The following is the decision: Complaint is made that the Q. & L. St. J. Ry. sells books containing 10 tickets each for all points on its line from Quebec to St. Raymond, which tickets are good for the whole year except those for Lac Sargent and St. Raymond which are good only from May 1 to Oct. 31. The complaint sets forth that this is an unjust discrimination and asks that the books issued and sold for Lac Sargent be good from Jan. 1 to Dec. 31. Considering that the said application appears reasonable and well founded and that further it was agreed founded and that further it was agreed to at this sitting by the Q. & L. St. J. Ry., through its representatives. The Ry, through its representatives. The Commission orders that the books of 10 tickets issued by the Q. & L. St. J. Ry. from Quebec to Lac Sargent be good from Jan. 1 to Dec. 31 of each year. As to the remainder of the complaint no order is presently made, as it has been decided in the case of Hamei vs. the Q. E. T. St. T. Pr. Co. & L. St. J. Ry. Co.

Quebec and Lake St. John Ry.— Total earnings for June, \$54,295.83, against \$51,991 for June, 1909. Aggre-gate total earnings for six months ended June 30, \$267,370.67, against \$278,021.56 for same period 1909.

The Intercolonial Ry. telegraphers have applied for the appointment of a board of conciliation, to deal with the questions of wages and hours.

W. Z. Earle, who resigned the managership of the St. John, N.B., Railway, a short time ago, has been appointed District Engineer Dominion Public Works Department, Winnipeg, succeeding A. R. Dufresne, who has been appointed Assistant Projectors been appointed pointed Assistant Engineer in place of Gillmor Brown, deceased.

Canadian Northern Ry	443		2,912
Canadian Pacific Ry	633		8,963
Central Vermont Ry 586			586
Delaware and Hudson Co 845		*****	845
Duluth, South Shore and Atlantic Ry 714			714
Grand Trunk Ry	310		4,435
Great Northern Ry	1,835	35	5,230
Intercolonial Ry. 1,448 Maine Central Rd. 925			1,448
Minneapolis, St. Paul and Sault Ste. Marie Ry 2.451			925 2,451
Pere Marquette Rd			2,356
Wabash Rd			2,141
Of the companies mentioned, the C.N.R., C.P.R., D. and H.			
WP contemplate further extensions of the system			

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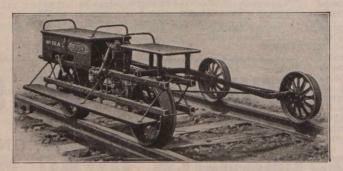
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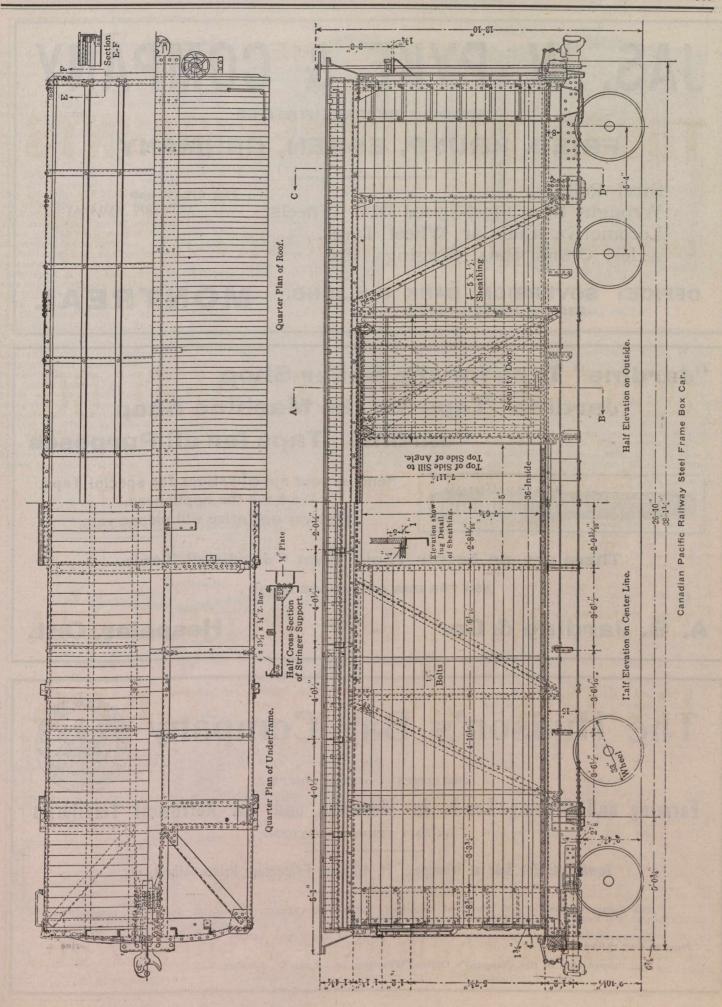
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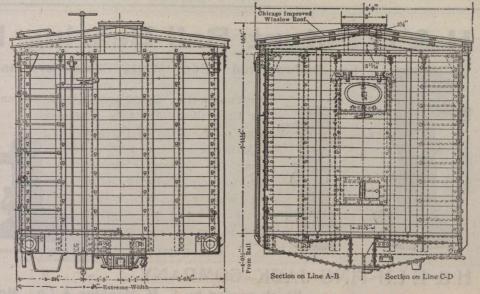
Full information at the Company's Offices, Winnipeg, or 1 Lime St., London, E.C.

C.P.R. Steel Frame Box Cars.

In our issue of January last, we published a description of 500 steel frame box cars built for the C.P.R. by the Dominion Car and Foundry Co. Subsequent orders have increased the number to 2,500, and the following additional information is now available in regard to them.

regard to them. They are 36 ft. inside length and have a steel underframing and steel side and roof framing, the floor, side sheathing and roof covering being of wood. They weigh 36,700 lbs. Two 15 in. channels set 12 % in. apart and continuing from end sill to end sill, form the centre sills. The side sills are 8 in. channels and are set with their top face 1½ in. above the level of the top flange of the centre sills. The other longitudinal sills in the first order of 500 cars were 4 in. Z bars located mid-way between the side and centre sills and resting on top of the bolsters and cross bearers. In the next 1,000 cars, a 3 x 4 in. wooden stringer was substituted and in the 1,000 now being built the Z bar has again been used.

was substituted and in the 1,000 how being built the Z bar has again been used. The bolster, which is shown in one of the illustrations, is of the pressed steel diaphragm built up type, having ½ in. cover plates top and bottom. The bolsters extend below and beyond the side sills, which are connected to them by angles and corner brackets, as shown in the illustration. Near the centre of the underframe just below the door posts are two built up cross bearers composed of a pressed steel diaphragm with a 6 x ½ in. cover and bottom plates, neither of which extends all the way to the side sill connection. Both the bolsters and cross bearers are constructed to permit the intermediate sills, 4 in. in depth, to rest upon them. The end sill is



C. P. R. Steel Frame Box Car, End Elevation and Cross Section.

a channel pressed out so as to permit the Z bar end post being secured back of it. Between the bolsters and cross bearers are two cross braces consisting of channels secured between the side and centre sills. There is also a diagonal brace from the corner of the car to the connection between the centre sills and bolster.

The wooden floor is nailed to 1 in. wooden stringers secured on top of the centre sill channels and bolted or nailed to the intermediate longitudinal sills. It is not fastened directly to the side sills,

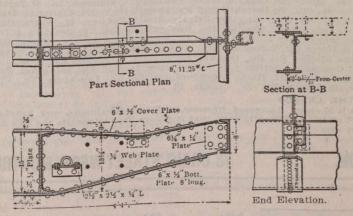
but is held down by the side sheathing, the connection at this point being shown in the small detail given in the silvent of general elevation. The side framing is composed of 3 in. standard Z bars secured outside of the side sills and to an angle iron plate, the top connection being reinforced with a gusset plate. The corner posts are 5 x 5 in. angles and the two centre end posts are 4 in. Z's, the intermediate end posts being 3 in. Z bars. These are secured to the steel end carlin, which is of the Z section. The carlins are of pressed steel in U section, being arranged to lip over the side plate and are secured by a rivet through the vertical flange of the plate.

in U section, being arranged to lip over the side plate and are secured by a rivet through the vertical flange of the plate. The inside sheathing is tongued and grooved, 1½ in. x 5 in. pine being bolted to the framing. The holes in the steel parts are slotted, and there are tie straps hooked over the top of the sheathing, carried down inside through the side sills and secured with nuts. The inside sheathing extends 3 in. above the bottom of the plates, and as it dries out or loosens up the bolts are slacked off and the nuts on the bottom of the tie bars being drawn up will permit the tightening of the sides and ends of the car to the total of 3 in., without leaving an opening at the top. There are two of these tie bars at each end and four on either side. The trucks are of the standard C.P.R. type, equipped with 750 lb. wheels. They have McCord malleable iron journal boxes; Susemihl frictionless side bearings; Simplex bolsters and brake beams, and American Steel Foundries steel back brake shoe. The specialties on the car body are Westinghouse air brakes and Simplex couplers.—American Engineer and Rallroad Journal.

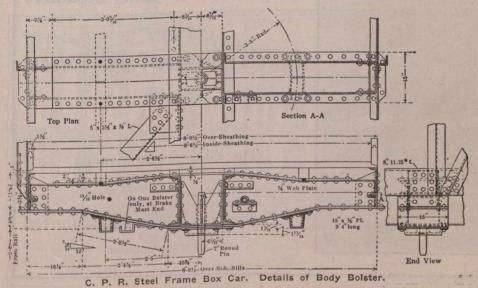
Dominion Atlantic Ry.—Gross earnings for May \$85.800, against \$91,628 for May, 1909. Aggregate gross earnings for 11 months ended May 31, \$1,076,550, against \$1,045.605 for same period 1908-09.

It is said that the "interests friendly to the C.P.R." which have acquired the D.A.R., paid 60 for the preference stock and 20 for the common, which were quoted in the English market at 44 and 13 respectively. The amount of common stock is about £250,000 and the preference about £270,000, to that only a little over £200,000 would be required to secure the whole of both issues.

Temiscouata Ry.—Profits for May \$5,732, and for five months ended May 31, \$15,378.



C. P. R. Steel Frame Box Car. Details of Cross Bearer.



H & E Patent Ball-Bearing Lifting Jacks



For Railway and Bridge Work, Contractors' and Builders' Use

For Convenience, Speed and General Efficiency these Jacks are Unequalled. Are fully guaranteed. Being made of the best grades

of Malleable Iron and Steel are strong and durable. Working parts entirely protected insure long wearing qualities. from 8 to 50 tons now complete. Send for prices and discounts.

MANUFACTURED BY





H & E LIFTING JACK COMPANY

WATERVILLE, QUE.

Stock carried by F. H. Hopkins & Co., Montreal

A HISTORY OF THE PAY-AS-YOU-ENTER CAR

AND ITS LESSON

The following cities are using Pay-As-You-Enter Cars: Chicago City Railway, 839 cars; Chicago Railways, 1,328; Public Service Corporation of New Jersey, 466; New York City Railway, 555; Third Avenue Railroad, New York, 550; International Railway, Buffalo, 200; Buffalo & Lake Erie Traction Co., 10; Washington Ry. & Elec. Co., Washington, D.C., 100; Capital Traction Co., Vashington, D.C., 51; ...unicipal Traction Co., Cleveland, Ohio, 180; United Rys. Co. of St. Louis, Misscuri, 310; Portland Ry., Lt. & Pwr. Co., Portland, Ore., 25; Columbus Ry. & Lt. Co., Columbus, Ohio, 10; V. chita R.R. & Lt. Co., Wichita, Kan., 14; Jacksonville Elec. Co., Jacksonville, Fla., 5; Dallas Elec. Co., Dallas, Texas, 20; Houston Elec. Co., Houston, Tex., 41; Northern Texas Trac. Co., Ft. Worth, Texas, 25; Ithaca Street Ry., 1thaca, N.Y., 2; Peoria Street Ry., Peoria, Ill., 13; Urbana & Champaign Ry., Champaign, Ill., 3; Mutual Lt. & Water Co., Brunswick, Ga., 4; Rochester Ry. Co., Rochester, N.Y., 25; Ft. Dodge, Des Moines & So. R.R. Co., 2; Muskogee Elec. Trac., Muskogee, Okla., 6; Union Traction Co., Dubuque, Ia., 4; Topeka Ry. Co., Topeka, Kas., 12; United Rys. & Elec. Co., Baltimore, Md., 32; Detroit United Ry., Detroit, Mich., 225; Cincinnati Traction Co., Ohio, 50; Montreal Street Railway, 400; British Columbia Elec. Ry., 30; Calgary Street Railway, 18; Metropolitan Street Ry., Rockford, Ill.; Cairo Street Ry. & Lt. System, 6; Des Moines City Railway, Iowa, 12; Macon Ry. & Lt. Co., Macon, Ga.; Virginia Ry. & Power Co.; Columbia Elec. St. Ry. & Lt. & Power Co., Columbia, S.C.; Aurora, Elgin & Chicago Ry., Chicago, Ill.; Wichita Falls Traction Co., Wichita Falls, Tex.; Ottawa Electric Ry. Co., Ottawa; Bloomington & Normal Ry. & Lt. Co., Bloomington, Ill.; Corsicana Transit Co., Corsicana, Tex.; Compania Electrica y de Ferrocarriles, Mexico; The Milwaukee Elec. Ry. & Lt. Co., Milwaukee, Wis.; Springfield Street Ry. Co., Springfield, Mass.; Lynchburg Traction Co., Lynchburg, Va.; Chicago & Southern Traction Co., Chicago, Ill.; Cal

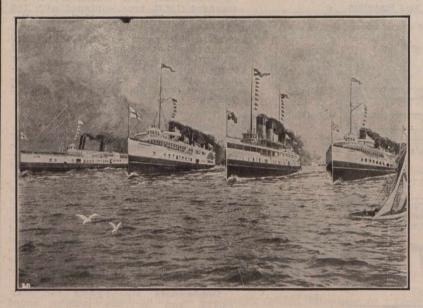
THE LESSON

taught by this widespread use of Pay-As-You-Enter Cars is obvious. Increased Revenue, Accident Elimination and Schedule Improvement have been demonstrated in every case. Isn't all this sufficient to show that it always pays to operate the Pay-As-You-Enter Car? Why not remodel some of your present cars?

We license manufacturers and railways to build and use the Pay-As-You-Enter Car, the Patents on which are owned by

THE PAY-AS-YOU-ENTER CAR CORPORATION.

78 CRAIG STREET WEST. MONTREAL



Niagara River Line Steamers

Buffalo - Niagara Falls - Toronto Route

The Gateway to Canada

Niagara Navigation Co., Limited Toronto, Canada

TRACTION STRESSES.

By S. Blumenthal, A.M. Can. Soc. C.E.

In the design of bridge piers, trestle towers, and other similar structures, the effect of traction is an important coneffect of traction is an important consideration. Traction may be defined as the force parallel to the centre line of track produced by the live load, and acts at the level of the top of rail. Hence, in order to get structures that will be safe for the forces they have to resist, and that will be at the same time connemically desirved, it is assential that economically designed, it is essential that the actual conditions producing these forces be considered. There are two con-ditions where stresses due to traction would occur:-

1. When a train is being hauled over the structure by a locomotive, with brakes off. In this case there would be a pull on the rails from the driving wheels of on the rails from the driving wheels of the locomotive, and an equal and oppo-site force due to the rolling and journal friction and atmospheric resistance in the rest of the train. On a structure of any length these would tend to neu-tralize one another, and on a span long enough to take the whole train, would obviously produce no traction stresses in the piers.

the piers.

2. The second and most important case is the one where the brakes are applied is the one where the brakes are applied to the wheels of a moving train. In this case, as long as the wheels revolve, the pull of the rails on the wheel = the pull exerted by the brakes on the wheels = pressure of the brakeshoes, multiplied by the coefficient of brakeshoe friction. When this latter force becomes equal to the pull of the rail, the wheel will slide on the rail.

In nearly all of the existing specifications the traction force is taken as 20%

In nearly all of the existing specifica-tions the traction force is taken as 20% of the total live load on the span con-sidered. This condition assumes that enough pressure is applied by the brakes to skid all the wheels of a loaded train, with a coefficient of friction between wheel and rail of .20. The standard American practice is to make the effi-ciencies of the brakes on the various classes of equipment as follows: Passenger cars 90% of light weight

Passenger cars90% of light weight. Freight cars70% of light weight. Tenders70% of light weight.
Tenders70% of light weight.
Locomotive driving
wheels75% of the loaded weight.
Locomotive truck

wheels 75% of the loaded weight. By efficiency of the brakes is meant the ratio of the total maximum pressure exerted by the brake shoes on the wheels to the vertical pressure of the wheels on



Canadian Pacific Railway Steel Frame Box Car.

the rails.

These percentages have been determined and adopted by the American Air Brake Association as best suited to actual service conditions, and are designed to prevent skidding and consequent flattening of wheels when the brakes are applied. The comparatively high ratio of 90% of the light weight is used on passenger cars because there is small varia-tion between the light and loaded tion between the light and loaded weights, and it has been found that at

weights, and it has been found that at the comparatively high speeds at which these cars run, the coefficient of the brakeshoe friction is lower than that of freight cars which run at lower speeds.

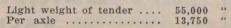
The experiments of Capt. D. Galton and Geo. Westinghouse, Jr., made in 1878, show that the coefficient of friction between the cast-iron brakeshoes and steel-tired wheels varies from 5% at a speed of 60 miles an hour, to 25% at zero speed. The coefficients for locomotive driving wheels and trucks are based on the loaded weights, since for these the loaded weights is the working based on the loaded weights, since for these the loaded weight is the working weight, which does not vary much.

Assuming the value of 25% and Coop assuming the value of 25% and cooper's E/50 loading, a formula giving the coefficient of traction on spans of various lengths may be obtained.

A locomotive of this size would carry 12½ tons of

25,000 lbs. And 5,000 gals. of water ... 50.000

Working weight of tender . 130,000 ".



Taking a span of 109 ft.. the distance covered by two locomotives, the sum of the pressure exerted by the brakes on the wheels would be as follows:

75% of working load on 2 trucks=2 × .75 × 25,000 lbs. = 37,500 lbs. 300,000 110,000

Total brake pressure.. 447,500 Total longitudinal force or traction = $447,500 \times .25 = 111,875$ lbs. Total vertical force = weight of 2 loco-

motives with tenders at 355,000 lbs. = 710,000 lbs.

Coefficient of traction for this span (109 ft.) =

111,875 =15.75 per cent. 710,000

The heaviest class of steel freight car in use at present, the short base 50-ton steel ore car, has an unloaded weight of about 1,500 lbs. per lin. ft. and a loaded weight of 5,000 lbs. per lin. ft., corresponding to the uniform load of 5,000 lbs. per lin. ft. behind the engines for Cooper's E/50 loading. For every foot of train load there would be added a vertical force of 5,000 lbs., and a horizontal force of 1,500 × .70 (the efficiency of the brakes) × .25 (the coefficient of the brakeshoe friction) = 262.5 lbs. From this the following formula has been dethis the following formula has been derived:

Where T = the coefficient of traction or the ratio between the horizontal and vertical forces.

L = length of span covered by

the live load.

111,875 + 262.5 (L-109) 710,000 + 5,000 (L-109)

simplified:

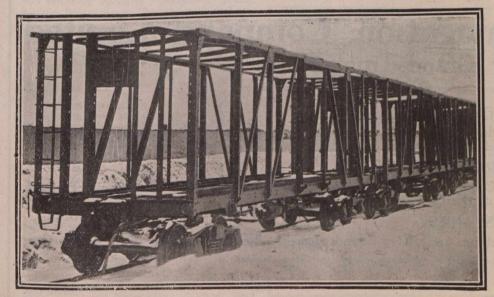
82,263 + 262.5 L 165,000 + 5,000 L Or, in round figures: 82,000 + 265 L

T = 165,000 + 5,000 L From consideration of the above it

will be seen that the coefficient of traction varies from a maximum of .75 × .25 = 18.75 per cent, for spans of from 0 to 1,500

to 32 ft., to $.7 \times .25 \times .25 \times .25$ cent. for a span of infinite length. = 5.25 per 5,000

There is a possibility of the driving wheels of a locomotive skidding when the brakes are applied and the engine



Canadian Pacific Railway Steel Frame Box Cars. Photographed before the wooden lining was put on.

BERRY BROTHERS

FAMOUS

VARNISH SPAR

Stands the Wear and Tear of the Elements

Conceded to be the Best

LIQUID GRANITE

LUXERRY WOOD FINISH

Greatest all around Varnish ever made

Most Durable and Satisfactory

Send for Frices, Booklets and Samples of Finished Woods

BERRY BROTHERS, Limited

WALKERVILLE -



TATE BIFUNCTIONAL ACCUMULATORS

Northern Navigation Company Limited Grand Trunk Route

"A FRESH WATER SEA VOYAGE"

Between Sarnia, S. S. Marie, Port Arthur, Fort William and Duluth. Through Lake Huron, St. Mary's River and Lake Superior.

"THAT GEORGIAN BAY TRIP"

Between Parry Sound, Collingwood, Owen Sound, S. S. Marie and Mackinac Island. Through the North Channel of the Georgian Bay.

"AMONGST THE 30,000 ISLANDS"

Between Midland, Penetang and Parry Sound, through the finest scenic route in America.

Rates and Full Information from all Railway Agents, or

C. A. Macdonald, Ass't Manager, Collingwood, Ont. E. W. Holton, Eastern Passenger Agent, Sarnia, Ont.

reversed. This would increase the coefficient slightly, and the effect would, of course, be greatest on the shorter spans. It would therefore seem reasonable to take a coefficient of 20% for spans up to about 60 ft., reduced for spans above this in accordance with the formula given above and as shown

on the accompanying diagram.

The assumed maximum value of 25% The assumed maximum value of 25% for the coefficient of brakeshoe friction was obtained in the experiments of Westinghouse and Galton for very low speeds (about 1½ miles an hour) immediately after the application of the brakes. The value decreased to about .17 five seconds after the brakes were applied, and to about .12 fifteen seconds afterwards. The values given by the formula are therefore maximum values and would only be obtained for an instant after the maximum brake pressure had suddenly been applied to a train which is moving very slowly, a condition which seldom occurs in actual which seldom occurs in actual

practice.
Since the efficiency of the brakes is based on the unloaded or tare weight of the car, with a given tare weight per lin. ft. of car, it follows that the total tractive force on any given span will be the same, whether the cars are unloaded or

The full line on the accompanying diagram shows the coefficients for spans from 60 to 500 ft., computed from the formula derived above, the dotted lines representing values for spans under 109 ft., calculated from the brake efficiencies and weights given in the beginning of the paper.

The foregoing paper was written for presentation before the Canadian Society of Civil Engineers.

TRANSPORTATION APPOINTMENTS.

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

Canadian Northern Express Co., Canadian Northern Telegraph Co.—Scot Griffin, heretofore Manager C.N.E. Co. and C.N.T. Co., having been appointed Manager Canadian Northern Steamships Ltd., the position of Manager C.N.E. Co., and C.N.T. Co., has been abolished.

W. C. Muir, heretofore Superintend-

ent has been appointed General Superin-

tendent. Office, Winnipeg. C. A. Cunningham has been appointed Superintendent of Western Lines. Office, Winnipeg.

Canadian Northern Ontario Ry.-W. Mitchell, recently promoted from acting Treasurer to Treasurer Canadian Northern Ry., has also been appointed Treasurer C.N.O.R. Office, Toronto.

R. S. Gosset, Anditor Canadian Northern Steamships Utd., and heretofore chief clerk Accountant's Department C.N.R., has also been appointed Auditor of Disbursements C.N.O.R. Office, Toronte Toronto.

Canadian Northern Quebec Ry.-L. W. Mitchell, recently promoted from acting Treasurer to Treasurer Canadian Northern Ry., has also been appointed Treasurer C.N.Q.R. Office, Toronto.

R. S. Gosset, Auditor Canadian Northern Steamships Ltd., and heretofore chief clerk Accountant's Department C.N.R., has also been appointed Auditor of Disbursements C.N.Q.R. Office, Toronto.

Canadian Northern Quebec Ry.—Quebec & Lake St. John Ry.—T. C. Hudson, Master Mechanic of both lines is also acting as General Car Foreman, A. R. Holtby having resigned to enter another company's service.

Canadian Northern Ry.—L. W. Mitchell, heretofore acting Treasurer, has been appointed Treasurer. Office, To-

ronto.
R. C. Vaughan, heretofore chief clerk to Third Vice President, has been appointed Assistant to Third Vice Presi-

ent. Office, Toronto.
J. D. Morton, heretofore General Accountant, has been appointed Assistant Comptroller. Office, Toronto. R. S. Gosset, Auditor Canadian North-

ern Steamships Ltd., and heretofore chief clerk Accountant's Department C.N.R., has also been appointed Auditor of Disbursements C.N.R. Office, To-

ronto. C. E. Friend, heretofore Auditor, has been appointed General Auditor. Office,

Canadian Northern Steamships Ltd.-R. C. Vaughan. Assistant to Third Vice President Canadian Northern Ry., has also been appointed Assistant to Second Vice President C.N.S. Ltd. ronto.

Scott Griffin, heretofore Manager Canadian Northern Express and Telegraph Cos., Toronto, has been appointed Man-ager Canadian Northern Steamships. Office, Bond Court House, Walbrook St., London, Eng.

Canadian Pacific Ry.-John Morrow has been appointed Real Estate Agent for Eastern Lines, with charge of the purchase, sale and renting of pro for the company. Office, Montreal G. I. Evans, heretofore property

Draughtsman Locomotive Department, Angus shops, Montreal, has been ap-pointed Mechanical Engineer. Office, Montreal.

Montreal.

With reference to the recent change in the designations of the Second, Third and Fourth Vice Presidents, to Vice Presidents, as announced in our last issue, we are officially advised that F. W. Peters of Winnipeg, and J. S. Dennis of Calgary, heretofore Assistants to the Second Vice President, will, in future, each be recognized as Assistant to the Vice President. Vice President.

Referring to the creation of four grand divisions under Provincial designations, instead of three divisions, Central, Western and Pacific. as announced in our last issue, we are officially advised that the Manitoba Division consists of the territory formerly known as the Central territory formerly known as the Central Division, with the exception of District 5; the Alberta Division of territory covered by Districts 2, 3 and 4, of the former Western Division, the numbers of which were changed to 1, 2 and 3, respectively; while the Saskatchewan Division is formed by District 5, of the former Central Division, and District 1, of the former Western Division, becoming Districts 2 and 1 respectively. ing Districts 2 and 1, respectively.

J. A. Douglas, heretofore electrical J. A. Douglas, neretolore electrical foreman locomotive shops, has been appointed Electrical Engineer Western Lines, vice H. H. Boyd transferred. Office, Winnipeg.

A. L. Powell, has been appointed

A. L. Powell, has been appointed Travelling Passenger Agent, Brandon, Man., vice W. J. Wells transferred.
R. W. Young has been appointed Superintendent of Telegraphs Saskatchewan Division. Office, Moose Jaw.
R. C. Harris. heretofore transitman at Calgary, Alta., has been appointed Resident Engineer, Medicine Hat. Alta., vice

dent Engineer, Medicine Hat, Alta., vice J. Robertson transferred.

J. McAnany has been appointed Travelling Engineer, District 3, Alberta Division, vice F. G. Rutley assigned to other duties.

F. W. Alexander, heretofore Resident Engineer at Cranbrook, B.C., has been appointed Assistant Division Engineer,

appointed Assistant Division Engineer, Alberta Division. vice T. Martin trans-ferred. Office, Calgary, Alta. J. Robertson. heretofore Resident Engineer, Medicine Hat, Alta., has been appointed Resident Engineer, Cran-brook, B.C., vice F. W. Alexander promoted.

Н. Н. Boyd. heretofore Electrical H. H. Boyd, heretofore Electrical Engineer Western Lines, Winnipeg, has been appointed District Master Me-chanic at Cranbrook, B.C., vice A. T. Shortt promoted.
A. N. McIntyre

A. N. McIntere, heretofore yardmaster at Revelstoke, B.C., has been appointed Trainmaster at Field, B.C., vice T. H. Crump promoted.

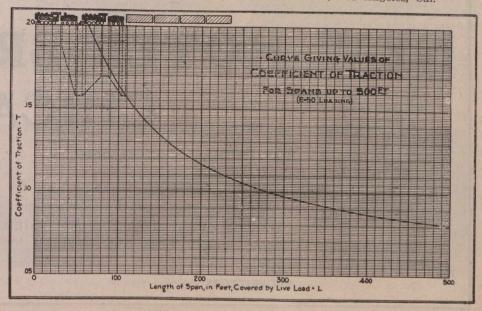
T. Hope, heretofore yard foreman at Field, B.C., has been appointed yard-master there, vice A. N. McIntyre pro-

A. Halkett, heretofore conductor at Nelson, B.C., has been appointed Assistant Trainmaster, District 2, British Columbia Division. Office, Kamloops.

T. H. Crump, heretofore Trainmaster at Field, B.C., has been appointed Trainmaster master District 2. British Columbia Division, vice J. M. Cameron promoted.

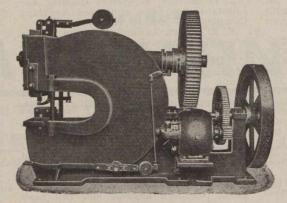
sion, vice J. M. Cameron promoted. Office, Vancouver.
J. Fletcher has been appointed Superintendent of Telegraphs British Columbia Division, vice J. Wilson retired. Office, Vancouver.
W. H. Snell. heretofore Travelling Passenger Agent, Boston, Mass., has been appointed Eastern Passenger Agent of New York territory, vice F. W. Dudley resigned. Office, New York City.

A. A. Polhamus, heretofore Travelling Passenger Agent, has been appointed General Agent Passenger Department, with district comprising Southern California, Bakersfield, Santa Barbara and south. Office, Los Angeles, Cal.



Improved Power Metal Working Machinery

Special Tools
for
Railroad Shops
Boiler Plants
Iron Works
Bridge Shops
Implement Works
Etc.



Single or Double
Punches
Multiple Punches
Structural Punches
Gate or Plate Shears
Universal Shears
Boiler Rolls
Slip Rolls
Levelling Rolls

Belt, Engine or Motor Drive

The Cincinnati Punch & Shear Co.,

Cincinnati, O., U.S.A.

Ganadian Gold Gar Heating & Lighting Go. Ltd.

492 ST. PAUL STREET, MONTREAL, QUE.

MANUFACTURERS OF

Electric, Steam and Hot Water Heating Apparatus for Railway Cars

Catalogues and Circulars Cheerfully Furnished. Improved System of Acetylene Car Lighting.

Send for Circular of our New Combination Pressure and Vapor Car Heating System

Largest Manufacturers in the World of Car Heating Apparatus

THE

NEW HOTEL BREVOORT CHICAGO



The Twentieth Century Hotel

Absolutely Fireproof

Centrally located. Near-by cars for all Stations. All rooms are outside rooms. Baths Connecting. Restaurant. Grill Room. Buffet. Unsurpassed in Appointments and Decorations. Table Unexcelled. Prices Moderate.

A. D. HANNAH & D. HOGG, PROPRIETORS ARTHUR M. GRANT,
MANAGER

Grand Trunk Pacific Ry .- F. R. Porter, heretofore Assistant Foreign Freight Agent, Toronto, has been appointed Division Freight Agent in charge of ter-

ritory Watrous, Sask., and west. Office, 153 Jasper Ave. E., Edmonton, Alta.
G. A. McNicholl, heretofore Pacific Coast Purchasing Agent, Vancouver, B.C., has been appointed Superintendent at Prince Rupert, B.C. The office of Pacific Coast Purchasing been abolished. All com been abolished. All communications heretofore addressed to him at Vancouver, should be sent to Prince Rupert, as he will attend to any matters neces-sary pertaining to the purchasing de-partment's work at Prince Rupert until further notice.

A. R. Holtby, heretofore General Car Foreman Canadian Northern Quebec and Quebec and Lake St. John Rys., Quebec, has been appointed Master of Bridges and Buildings, Mountain Division, G.T.P.R. Office. Prince Rupert, B.C.

The following agents have been appointed:—Ingelow, Man., A. Fullum; Waldron, Sask., C. W. Hemsworth; Fenwood, Sask., F. E. Carriveau; Punnichy, Sask., H. Wolfe: Raymore, Sask., P. W. Kenefick; Semans, Sask., A. Donnelly; Sask., H. Wolfe, Rayllott, Sask., A. Donnelly; Unity, Sask., A. E. Hill; Chauvin, Alta., W. E. D. McTaggart; Wainwright, Alta., W. H. Oliver.

Grand Trunk Ry .- E. Brazeau, heretofore acting Roadmaster District 2, Eastern Division. Richmond, Que., has been appointed Roadmaster.

E. Walton, heretofore Travelling Car Service Agent Eastern Division, Mon-treal, has been appointed Master of Transportation Eastern Division, vice P. G. Flaherty, acting Master of Trans-portation transferred. Office, Montreal.

P. G. Flaherty, heretofore acting Master of Transportation Eastern Divi-sion, Montreal. has been appointed Trainmaster District 3, Eastern Division, Richmond, Que.

H. A. Carson. heretofore in the division freight office, Toronto, has been appointed Soliciting Freight Agent there, vice G. A. Fernley resigned to enter

I.C.R. service.
W. C. Starke. has been appointed Travelling Car Service Agent, Eastern, Ottawa and Northern Divisions, vice E. Walton promoted. He will investigate and report upon car service conditions generally at all stations and perform such other duties as may be assigned to him from time to time. Office, Montreal.

G. Pepall, heretofore Agent National Despatch Great Eastern Line, Toronto, has been appointed Assistant Foreign Freight Agent, vice F. R. Porter, trans-ferred to G.T.P.R. service. He will con-Foreign tinue to represent the National Despatch-Great Eastern Line in connection with export traffic via that route. Office, To-

ronto. C. W. Power, hertofore Assistant Engineer, has been appointed Resident Engineer, Toronto, vice E. L. Cousins, resigned to enter Toronto city service.

C. Forrester, heretofore Chief Dispatcher at London, Ont., has been appointed Trainmaster Districts 15, 20 and Dis21 (Buffalo and Goderich), Middle Division, vice J. A. McLardy resigned. Head-

quarters, Stratfrod, Ont. W. S. Wilson, heretofore Chief Dispatcher at Stratford, Ont. has been appointed Trainmaster Districts 22 and 23, Middle Division. Headquarters, Strat-

W. Jackson, A. Muir, G. Cooper, R. Bennett, W. White, J. H. Gordon and F. A. Rutherford have been appointed Assistant Trainmasters Districts 16, 17 and 24, District 18 Komoka to Glencoe, District 19 Glencoe to Kingscourt Jct., Port Colborne to Welland Jct., Port Robinson to Port Dalhousie, District 20 Tillsonburg Jet, to Harrisburg receive-Tillsonburg Jct. to Harrisburg, receiving their instructions from C. G. Bowker, Assistant Superintendent, London, Ont.

W. Hall, T. Wheatley, W. R. Kloephel, G. Black, R. Fish, C. H. Brown and D. W. Hayes have been appointed Assistant Trainmasters Districts 15, 20 and 21, receiving their instructions from C. Forrester, Trainmaster, Stratford, Ont.

Jas. Lavelley and R. Shea have been appointed Assistant Trainmasters Districts 22 and 23. receiving their instruc-tions from W. S. Wilson, Trainmaster, Stratford, Ont.

Halifax and South Western Ry.-L. W. Mitchell, recently promoted from acting Treasurer to Treasurer Canadian Northern Ry., has also been appointed Treasurer H. & S.W.R. Office, Toronto. R. S. Gosset, Auditor Canadian North-

ern Steamships Ltd., Auditor Disburse-ments Canadian Northern Ry., has also been appointed Auditor of Disburse-ments H. & S.W.R. Office, Toronto.

H. H. Melanson, formerly chief clerk General Passenger Agent's office, has been appointed Assistant General Pass-

enger Agent. The circular, which only reached us recently, is dated Nov. 1, 1909. Office, Moncton, N.B.
G. A. Fernley, heretofore Soliciting Freight Agent G.T.R., Toronto, has been appointed Soliciting Agent I.C.R., To-

New York Central and Hudson River Rd.—W. K. Vanderbilt, Jr., has been appointed Assistant to the President, and will also be appointed to a similar position in regard to the affiliated lines.

Quebec and Lake St. John Ry .-Canadian Northern Quebec Ry. and H. & S. W. R.

Reid Newfoundland Co.-A.

John's, vice A. Pretty deceased.
S. Walsh has been appointed Roadmaster Division 4, between Bishop's Falls and Bay of Islands, vice J. Peddle transferred.

The First Canadian Railway.

What is said to have been the first railway in Canada was built between Lapairie and St. Johns, Que., to replace the stage coach in carying passengers between Montreal and the waterway which reached to New York. The charter was obtained in 1832 and it provided for a line of 16 miles. The authorized capital

of the company, known as The Chamof the company, known as The Champlain and St. Lawrence Rd Co., was \$50,000, divided into 1,000 shares of \$50 each, a capitalization of a little over \$3,000 a mile. Work was commenced in April 1835 and the line was opened in July 1836, horses at first being used to haul the cars. The first rails were what were known as "straprails," strips of wood covered with a thin plate of metal were known as "straprails," strips of wood covered with a thin plate of metal, but these were soon replaced with iron T-shaped rails.

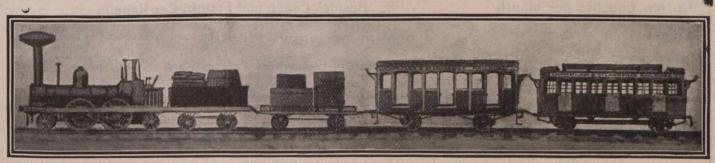
In writing of this earliest of Canadian railways, the late J. J. Lanning, adian railways, the late J. J. Lanning, for some time Assistant General Manager of the G.T.R., said: "The line was opened for traffic in 1836, being laid with wooden rails and worked by norse power during the first year of it existence." In this latter statement, Mr. Lanning was evidently in error, for in The Montreal Transcript, of Oct. 27, appeared the advertisement of this 1836, appeared the advertisement of this railway service, giving the time table and fare, and it is stated there that the trains were hauled "by locomotive."

What the early passenger trains were like is best told by the accompanying illustration, which is a reproduction of a picture now hanging in the G.T.R. board room in Montreal.

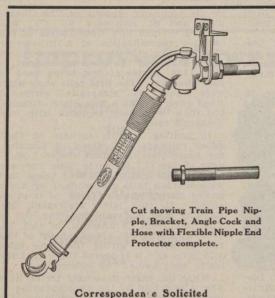
The advertisement in The Montreal Transcript anounced that "The Champlain and St. Lawrence Rd. Co., in connection with the steamboat Princess Victoria, will continue to run as follows Steamer from Montreal precisely; 9.30 a.m., 3 p.m. Cars from Laprairie, 10.30 a.m., 4 p.m., by locomotive." Then followed the time of the return trips and the times of the Sunday service. The the times of the Sunday service. The fare for the return trip on the same day 7s 6d; single fare. 5s; children half price.

This advertisement appeared after the railway had been in operation only a few months. In the same issue of The Transcript appeared the following news paragraph which shows how early the new line developed freight traffic: "A number of American speculators have been engaged in this city for the last two weeks in buying up wheat and salt for the American market. The steamer Princess Victoria has already brought 35,000 bushels of wheat and 20,000 bushels of salt to Laprairie to be taken to St. Johns via the said road. What does this This advertisement appeared after the Johns via the said road. What does this portend?

The political troubles of 1837-38 arrested railway expansion and not much more was done until 1845, when a charter was granted to the St. Lawrence and Atlantic Ry. Co. authorizing it to build a line from the St. Lawrence, opposite Montreal, to the U.S. frontier, there to connect with a line running to Portland, Me. In 1847, the line from Montreal to Lachine was opened; in 1850, the line to Portland was opened as far as Rich-Portland was opened as far as Richmond, Que., and a charter was granted to build a branch from Richmond to Levis, opposite Quebec. In 1852, the St. Johns-Laprairie line was brought down to St. Lambert, which became the general junction point, and eight years later the southern terminus of the Victoria Bridge. These early railways are today parts of the G.T.R. system.



The First Railway Train in Canada, which began running between Laprairie and St. John, Que., in the Summer of 1836.



GUILFORD S. WOOD

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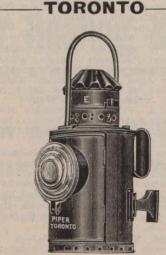
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Grain Elevator Notes.

The Alberta Pacific Elevator Co. is arranging, according to a recent statement of the manager, to erect a number of elevators in the province, in order to deal with the expected large crop.

D. W. McCuaig, who was recently appointed chairman of the Manitoba Elevator Commission, announced, July 7, that he would resign the presidency of the Manitoba Grain Growers' Association

A special meeting of the Montreal Grain Elevating Co. stockholders was held recently, when the resolution passed by the directors. May 30, that it was in the interests of the company that it be wound up voluntarily, was confirmed. A. MacDougall, Managing Director, T. A. Crane, R. Reford, B. McLennan and A. G. Thomson were appointed liquidators.

The Sovereign Grain Co., Ltd., has been incorporated under the Manitoba Companies' Act, with a capital of \$300,000, and office at Winnipeg, to carry on a general grain. grain elevator and warehouse business. The provisional directors are. B. McBean, A. Johnson, H. Metcalf, H. McBean and D. Richardson, Winnipeg.

E. H. Heaps, President A.B.C. Elevator Co., is reported to have stated, recently, that the company would commence construction, at an early date, of a large elevator at Vancouver, B. C., provided a satisfactory arrangement could be made with the city. Failing this, it would probably erect the elevator at New Westminster.

Press reports from Winnibeg, recently stated that C. C. Castle, Government Inspector of Elevators, had sealed up a number of bins in the terminal elevators at Port Arthur, with a view to prosecutions for manipulation of grades. He subsequently denied that anything of the sort had taken place, but stated that investigations were being made in the ordinary way.

dinary way.

The commission, consisting of Prof.
McGill, J. R. Green and G. Langley, appointed by the Saskatchewan Government to enquire into all questions relating to the grain trade, elevators, etc., has held a number of sittings in various parts of the province, hearing evidence. The enquiry is taking a wide scope, and will be of considerable assistance in arranging the system of operation and control which the Government will adopt.

Over 50 applications have been made to the Manitoba Grain Elevator Commission, under the recent act, for the erection of elevators. On receipt of an application, the Commission dispatches agents to investigate the desirability of such construction, and view possible sites. E. P. Estier is reported to have been appointed Chief Engineer to the Commission, and to be engaged in drawing up a new elevator system for the province.

The Manle Lord Million Comission reports

The Maple Leaf Milling Co. is reported to have given contracts for the erection of 17 elevators at various points in Saskatchewan, to the W. A. Harper Construction Co., Winnipeg. These elevators will, it is said, be erected along the Pheasant Hills, Sheho-Lanigan and Arcola branches of the C.P.R., each having a capacity of 30,000 bush., with flour house attached. In addition to this, it is reported that the company intends erecting a 1,000,000 bush. elevator at Port Colborne, Ont.

The Western Farmers' Milling and Elevator Co., which was to have erected elevators at Bow Island, Winnifred, Burdett, Chinn and Seven Persons, Alta., has decided, in view of the defalcation of its secretary-treasurer, mentioned in a recent issue, not to proceed. The materials which had been accumulated at

these points had been taken over by the Alberta-Pacific Elevator Co., which will carry out the work intended as soon as deliveries can be completed.

The Governor-General in-Council has approved the Montreal Harbor Commissioners' bylaw, providing that the commissioners will unload grain from vessels in the harbor, and load it into steamships by floating elevators for sixtenths of one cent. a bush., half of which will be payable by the vessel out of which the grain is loaded, and the other half by the vessel into which it is loaded, and, for the shovelling in vessels unloading, such vessels shall pay \$1.75 per 1,000 bush.

The Great West Milling Co. of Canada, Ltd., has been incorporated under the Dominion Companies Act, with a capital of \$1,000,000 and office at Kenora, Ont., to manufacture and deal in all kinds of grain and its products, and in connection therewith to own and operate elevators, warehouses, steam and other vessels, wharves, docks, etc. The provisional directors are, T. Walsh, J. T. Brett, A. Shragge, W. G. Cameron, G. M. Rioch, J. P. Earngey, W. J. Chapman, J. C. Baxter, J. Brenchley and G. A. Toole, Kenora, Ont.

Among the Express Companies.

The Dominion Ex. Co., has opened offices at Aldersyde and Redcliffe, Alta.

G. C. Taylor, heretofore Manager Pacific Division American Ex. Co., has been appointed Vice President and General Manager, with office at Chicago, Ill.

In connection with the relief fund for those who suffered in the fire, which practically desolated Campbellton, N.B., in the early part of July, the Canadian Ex. Co., transmitted donations free or charge from all points within Canada.

The Dominion Ex. Co. has moved its money order department from St. Lawrence Hall to temporary offices in St. James St., Montreal, until the company's new office building on the St. Lawrence Hall site is completed.

Express companies operating in Canada, in accordance with an order issued by the Board of Railway Commissioners, are preparing a directory containing the delivery limits in all centres having a population of 10,000 and over.

In our last issue, we announced the appointment of V. G. R. Vickers, as Manager Dominion Ex. Co.'s Foreign Department, Moutreal. We are officially advised that he assumed this position in connection with his duties as Superintendent of the Atlantic Division.

It has been held in U.S. courts, that an express company is not liable for the depreciation of millinery due to change of fashion, on its failure to give notice of the refusal of goods by consignee and their return, when it had no notice that delay would result in such depreciation.

The express companies have agreed to carry horses for show purposes, on a similar basis to race horses, so far as the number of attendants travelling with them is concerned, but reserve the right to apply later to the Board of Railway Commissioners for an increase in the rate.

The contract for the building of the Dominion Ex. Co.'s offices on the St. Lawrence Hall site, Montreal, has been awarded to P. Lyall and Sons, the contract price being quoted as about \$700,000. The demolition of the old premises has commenced. and it is expected that the structural steel work, and the granite construction of the first story will be completed this year.

The Dominion Ex. Co., by arrangement with the Upper Ontario Steamboat Co., now accepts c.o.d. shipments for

Elk Lake City, via Latchford, Ont., the charge for collection and return being governed by Classification 16. In all cases the charge for each company must be shown on the c.o.d. wrapper, with instructions as to whether such charges be collected from the consignee or not.

S. G. Tate, who has recently sentenced to nine months imprisonment at Liverpool, for defrauding the White Star Steamship Co., by means of false bills of lading, was, from Mar., 1902, to Mar., 1907, Travelling Freight Agent M.C.R., St. Thomas, Ont.; Mar. to Dec., 1907, Contracting Freight Agent G.T.R., Liverpool, Eng.; Dec., 1907, to May, 1910, Traffic Agent United States Ex. Co., Liverpool, Eng.

Proceedings are reported to have been commenced against local officials of the Canadian Northern Ex. Co., at Beautiful Plains, Man., for alleged contempt of court, in connection with the recent elections in Manitoba. It is stated that the returning officer delivered his return to the company, as his agent, for dispatch to the Government, and it was so delivered, notwithstanding the fact that an injunction had been obtained to prevent it.

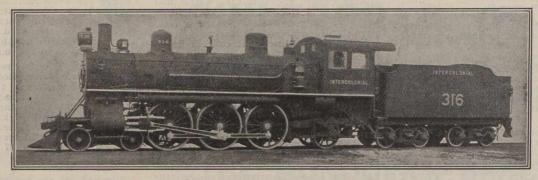
U.S. courts have decided that where a package is delivered to an express company, where the shipper was not asked to declare the value, and where the value is not given in the receipt, the evidence is insufficient to show that there was fraud in attempting to get the goods carried for less than the established rate. The limitation of liability to \$50, at which sum the property is valued, contained in the receipt, is void, and the company cannot escape liability on the theory that if it pays the entire value it will be liable to prosecution for discrimination in rates.

The Dominion Ex. Co. has opened an office at Stewart, B.C., at the head of the Portland Canal. Shipments should be billed through to destination and charged regular tariff rates to Vancouver, and in addition a separate graduate from Vancouver to Stewart, of \$3.25 per 100 lbs. on merchandise, or \$5.50 per \$1,000 on money. When the value of any merchandise shipped c.o.d. or otherwise, exceeds \$50, a charge for value, of 25c. for each \$100 value, or fraction thereof, is made, in addition to the valuation charged to Vancouver. Marine insurance, if desired, from Vancouver, on merchandise, 35c. per \$100, or \$2.50 per \$1,000 value, with a minimum charge of 25c.; on money, 20c. per \$100, or \$1 per \$1,000, with a minimum charge of 25c.

J. Richardson and Sons, Ltd., elevator and ship owners, etc., Kingston, Ont., has been licensed, under the Companies Act respecting extra-provincial companies, to carry on business in British Columbia. A. F. Macnee, Vancouver, is its attorney.

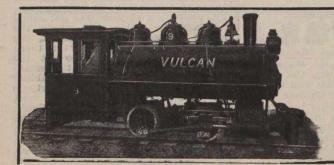
The Great Northern Ry. is assembling material for the installation of a system of telephone train dispatching on a number of its divisions, including that from Everett, Wash., to Vancouver, B.C., 265 miles. The whole work, which will involve the erecting of about 4,600 miles of wire and the installation of 726 telephone stations, will, it is expected, be completed by Jan. 1, 1911.

A large delegation of the Grain Growers Association of Manitoba which waited on Sir Wilfrid Laurier at Brandon, July 18, urged the appointment of Andrew Graham, of Pomeroy, to succeed the late T. Greenway as a member of the Board of Railway Commissioners. He is a cousin of the Minister of Railways. The Premier replied that the person to be appointed to the vacancy would be a western man and a representative of the farming community.



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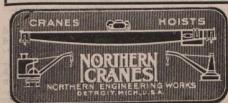
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Notes on Electric Freight and Express Traffic.

By H. D. W. Miller.

The subject of freight and express business, as handled by electric lines, is one of such varied phases and conditions that any hard and fast methods of procedure are difficult of arranging without detailed knowledge of conditions which obtain on the particular system under consideration. However, there are certain general methods of organiz-ing and successfully operating a freignt and express business, which will be found necessary to any conditions, physi-cal, competitive or otherwise, and it is with these conditions that this paper deals.

The ideal conditions for a large and lucrative freight and express business for an electric road are: A large wholefor an electric road are: A large wholesale and manufacturing centre which
originates a great amount of staple articles in grocery, dry goods, hardware
and manufactured lines, and, in turn,
consumes the products of the farm; a
rich surrounding country, with many
thriving country towns and moderatelysized cities, which consume the products of the larger city and supply to the
city its necessities. The interurban ducts of the larger city and sur-city its necessities. The interurban operating under such conditions need have no difficulty in establishing a freight or express business which will well repay the money invested if the business is handled on the right basis. TERMINALS.—The location of freight

business is handled on the right basis.

Terminals.—The location of freight terminals in large towns and cities presents many questions which must be handled in line with local conditions. There should be one general terminal as conveniently located as possible to the wholesale and manufacturing districts. A site so located is expensive, and difficulty of acquirement. However, in the end a few thousand dollars ever, in the end a few thousand dollars more expended in the procurement of such a site is money invested to best advantage, as it places the company in a secure and favorable position for getting and retaining the business, and business is what the company is after—not idle cars and unused tracks. This site should also be so located that there will be little interference with the regular passenger equipment of the line, either by trucks and teams which deliver and receive freight at the terminal or by the freight cars using lines already heavily congested with passenger traffic.

The use of the heavy lines is unavoidable in many cases, but in the selection of a terminal site a careful inspection of of a terminal site a careful inspection of all territory should be made and consideration given to this feature as well as to cost of site. Freight and express traffic should all be handled through one terminal. A series of pickup and delivery stations throughout a city can only result in confusion to the public, delay to both outbound and inbound business, and a consequent accumulation of claims for loss and damage. By the of claims for loss and damage. Py the concentration at one well-equipped and well-managed terminal the traffic is

handled at far less cost per ton, the public quickly learns where to deliver and receive freight, confusion of traffic accounts is avoided and, as goods are beter housed, stored and handled, there is a minimum of delay, loss and damage and consequently a substantial reduc-tion in the claims account. Such a terminal as the writer has in mind should be constructed of wood or steel with corrugated iron sides and sheet metal roof with plenty of skylights arranged for proper lighting. A frostproof com-partment of sufficient dimensions should be provided wherein to store perishable products in winter and this might also be used as a coal room during the heated term, if much business requiring such a convenience is handled. This idea of a terminal is only advisable or desirable in large places where it is necessary to handle a large amount of traffic promptly. It may be greatly modified to suit varying needs and conditions, especially in the smaller places, where, indeed, nothing approaching the above is necessary. However in all cases is necessary. However in all cases plenty of room for proper storage and handling of traffic should be provided and the obstruction of sidewalks and streets be avoided as far as possible.

THE ROLLING EQUIPMENT used freight traffic should be fully up to the best passenger equipment in power, etc., to insure getting over the road. By all means do not operate small freight cars. The operation of small cars results in more loss and damage claims than any other one thing on the list. All kinds of freight are presented for shipment and with small cars and loaded to their capacity it would mean a mixture which capacity it would mean a mixture which would result in goods spoiled and refused at destination, claims presented for value of same, both shipper and consignee displeased and future business gone to a competing line. Good roomy cars will go far towards reducing the claim account and also towards retaining old and acquiring new business.

Soliciting.—In the large cities a live solicitor should be constantly at work. Not the freight agent who has enough to do keeping things going at his office, but a good live man who has nothing else to do but to keep in touch, not only else to do but to keep in touch, not only with the outbound shipper, but also with those who are handling the product of the surrounding towns and country. He should devote the greater share of his time to the city but also should make regular visits to every town or village the system, put the local agents next to possible business, and, in turn, exact from them all the information possible as to prospects for business from their stations and keep them on the alert for all items which will affect the company's business. The solicitor should be fully informed as to competitive lines, steam road, boat, old line express or electric companies. He should be thoroughly familiar with their rates, schedules, and form of service and every other item which will in early ways effect his companies. which will in any way affect his company's business or suggest some improvement thereto. He should inform himself of the details of all claims and endeavor to secure prompt and equitable adjustments thereof. He is the one who comes in contact with the public and he should ever be ready to listen to complaints and have them adjusted to the plaints and have them adjusted to the interests of both the patrons and the company. Nothing tends more to cordial relations between the company and its patrons than for the latter to feel that they are dealing with a company which is ready and anxious to give them a square deal. The solicitor is the one on whom considerable depends for the satelyickment and continuence of this establishment and continuance of this cordial feeling.
ORGANIZATION OF STAFF.—It is of the

utmost importance that the traffic offering be taken care of promptly and effi-ciently, otherwise all previous trouble

and expense go for naught. The right kind of men must be employed to se-The right cure the desired results. Pay them as good salaries as they could get from steam roads and you are then in a position to exact the best of service and when such is not rendered dispense with them and get men who will render such service. Cheap wages make cheap men, but cheap men are a costly proposition in the claims account alone, laying aside the loss of business sure to result from a cheap and inefficient service. The writer advocates the employment of steam road men, as far as possible, in the steam road men, as far as possible, in the electric freight and express service for these reasons: Railways accounting and the handling of freight are in a class by themselves. An experienced commercial accountant would be wholly out of the express allowed in a freight or express. his element in a freight or exp office. He would require coaching office. He would require coaching be-fore making an entry and as for going ahead with his work he simply could not do it until he obtained months of experience in all the varied methods and forms of handling railway accounts. From the very nature of the business it is absolutely indispensable that electric freight accounts be handled after the approved forms of steam road or old line express accounts. Electric the approved forms of steam road or old line express accounts. Electric freight or express accounting is simpler than steamroad accounting, in that, for the most part, the business is of a strictly local character, therefore fewer men will handle the same amount of business to better advantage than in a steam road office. A sufficient force should always be employed to keep accounts strictly up-to-date and traffic moving promptly. counts strictly up-to-date and traffic moving promptly.

STORAGE, HANDLING AND LOADING .-Freight should always be loaded on cars in station order, goods for station farthest away in first and to the ends, and loading in order to the doors where the freight for the first stations out should be placed. Too much care cannot be taken in properly storing freight in cars and warehouses. If possible, oil and other liquid or dirty freight should be entirely removed from eatables or anything else liable to become soiled or tainted therefrom. Care in loading miranted therefrom. tainted therefrom. Care in loading mirrors, furniture and other freight of a fragile nature will result in material reductions in the claims account and greater attention should be paid to this feature of the business. One careless freight handler will cost the company more in loss and damage claims than the extra wages necessary to secure a careful and reliable man. Claims for loss and damage arise from many different causes, but a large percentage of them are due to careless and indifferent employes and cramped space in warerooms and in cars.

THE FREIGHT CLAIMS DEPARTMENT of the utmost importance. The transportation of freight and express is today largely a local business, and through business, in which two or more distinct companies participate, is the exception. The mileage of the electric lines is short and stations few as compared with most steam roads. As a result it is much easier to locate the cause of delay or damage from which a claim arises. A percentage of claims for loss, delay and damage may be entirely abated by proper terminals, roomy equipment, careful storage, loading, and handling as explained in detail previously. Claims are bound to be incurred and on the are bound to be incurred and on the average electric line of to-day there is no excuse for delay in making a thorough investigation and prompt adjustment of same. Any other course simply means a dissatisfied shipper, or consignee, and loss of business. A policy of prompt adjustment of legitimate of prompt adjustment of legitimate claims not only hold business already secured but is also an important factor in making new business. In connection with claims the subject of O. S. & D.

(over, short and damage) reports should be considered and every local freight agent should be required to issue these reports as necessary. If issued promptly they greatly assist the claims department in adjusting claims for damage and in placing responsibility for same. Without such a system of O. S. & D. reports the company lays itself liable for many claims which it is not in position to handle with any degree of justice to itself.

claims which it is not in position to handle with any degree of justice to itself.

Service and Schedules.—The service must be of such a nature as to fully meet all competition. Frequency of service will depend on competition and demands of traffic peculiar to the territory operated in. The schedule should be fast and reliable, but it is better to have a reliable service, with cars always on time, than to promise a schedule which cannot be maintained. The business man wants what he wants when he wants it, and he usually knows how to get it. If you cannot satisfy him he goes elsewhere. Make the service fully as good if not better than the other fellow's and the business is yours.

The Accounting is a matter of so much detail that space will not permit of treating it, except in a general way. The electric transportation of freight and express is so nearly identical with the same business as handled by steam roads that it is essential that the general form of steam road accounting be adopted. With the latter there are varying details in method, but the same general principles apply throughout the country. By the application of the steam road system and with competent men this feature of the business becomes greatly simplified. The experience of the writer has been that with electric freight accounting, the systems in use have been totally inadequate in some few instances. Through lack of a thorough system of counting, the systems in use have been totally inadequate in some few instances. Through lack of a thorough system of accounts and through lack of men at local stations and in audit office experienced in handling such accounts, it has simply been impossible to keep check of the business with any degree of satisfaction. With the system the writer has in mind the auditor is enabled at any time to ascertain the exact standing of any or all stations and to satisfy himself of any possible collusion between local agents or between agents and conductors on the runs.

PICKUP AND DELIVERY.—Except where

ductors on the runs.

PICKUP AND DELIVERY.—Except where absolutely necessary by reason of wagon express or old line express, competition, the store door pickup and delivery is unadvisable and should not be necessary. Where such competition is encountered, careful consideration of possible earnings, expense of wagon service, etc., should be given and there would have to be an especially bright outlook to invite the entrance of an electric line into the freight and express business under these conditions.

these conditions.

CLASSIFICATION AND RATES.—The standard official steam road classification usually governs in electric transportation, especially in less than carload business, and this classification may be safely ness, and this classification may be safely adopted with some exceptions due to difference in equipment and operation. Rates must be made to meet competition in all cases, but where no competition exists care should be taken to conserve the interests of the company without exacting too much from the shipping public, otherwise the public will be content with the old methods of transportation and the company will suffer as a result.

THE MILK BUSINESS can be made a THE MILK BUSINESS can be made a source of revenue to the electric lines and can be handled in a simple way as to accounting and return of empties. Rates will depend on local conditions. length of haul, etc. By careful and energetic solicitation of the dealer and producer, a good volume of business may usually be secured at satisfactory

2 GRAND PRIZES AND GOLD MEDALS

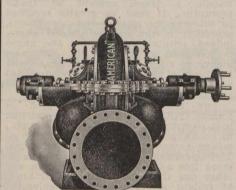
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C. L. Hacket. 605 Eastern Townships Bank, Montreal

rates. Issue coupon tickets in denominations of five and ten gallon cans. These should be consecutively numbered, issued and charged to the local agents. shipper buys these coupons in lots to suit his convenience. The tickets are attached to the cans in denominations according to the capacity of the can. The conductor detaches the coupon from the can and turns it in to the audit office, the stub remains on the can to serve as a direction for return of empty to shipper. As the coupons are issued local agent and sold by him for cash the accounting is a simple matter.

THE HANDLING OF BAGGAGE on electric roads is a troublesome problem and to attempt to do it on the present steam road basis is out of the question. Interurban passenger rates are lower, the service more frequent, and equipment not sufficient capacity to encourage handling of baggage on any other basis than that of revenue. When the day shall have arrived in which electric roads operate a train service, as the steam roads do now, then the free transportation of baggage may receive consideration. As generally handled to-day by the interurbans a flat rate per piece is usually charged, the rate varying only as the length of haul. Thus a sample trunk, in which may be samples to the value of several hundreds of dollars, goes for the same charge as a small or in-expensive piece. Considering the greater risk incurred, weight carried, and space occupied, the company is clearly entitled to a greater revenue for the sample trunk However, to than for the small piece. adopt a system of classifying, rating, and billing baggage is so cumbersome and slow of execution that the game is not worth the candle. Baggage usually ac-Little time is companies a passenger. given for loading, quick delivery must be made, and ready means of identifica-On a revenue basis, tion employed. therefore the flat rate per piece and a simple form of way billing must be used. A form of check which serves as a quick means of identification and delivery of property the same having spaces to deproperty the same having spaces to designate the amount of charges and whether prepaid or collect should be used. The agent uses a manifold bag-gage way bill book. All baggage for the same station, forwarded on the same car is entered on the same way bill in indelible pencil. This way bill shows date, way bill number, check number, station from, destination and also the amount of charges and whether prepaid amount of charges and whether prepaid When the car is ready or collect. leave the station, the agent tears out and hands to the conductor the original way bill, covering baggage for the various the various towns, taking the conductor's receipt on the duplicate remaining in his books. The conductor in turn delivers the bag-gage and way bills at the various towns. The passenger presents his duplicate check and receives his baggage promptly, paying charges if way bill and check inhis duplicate dicate the charges are to be collected. The forwarding agent takes to account the prepaid charges on the manifold copies of way bills and the receiving agent takes to account the prepaid charges on the manifold copies of way bills and the receiving agent takes to account the original bills received with the baggage, charghimself with all collect items ap-ring thereon. Weekly abstracts are pearing thereon. Weekly abstracts are made by each station of both forwarded made by each station of and received way bills. These abstracts go to the audit office and are checked, one against the other, and the accuracy one against the established. This sysof the accounts established. This system entails but little more detail than the steam road system where baggage is handled on a free basis and, at the same time, absolute accuracy of accounting is secured and collusion between agents is impossible as all checks are numbered consecutively and every check must be accounted for as well as the way bill. If any checks are missing or unaccounted for they are easily traced

to the agent responsible for them and settlement made.

INTERCHANGE OF BUSINESS with steam roads and old line express companies is receiving much attention. The general interchange of such business is bound to come with the rapid extension of interurbans into new territory, and the matter of appealing to the govern ment to compel steam roads and old line express companies to interchange business with the interurbans on an equitable basis is being agitated. With such an arrangement there is no doubt the interurbans would originate much new business for distant points and also participate in much business from a distance and from which they would be entirely barred if the interchange arrangements were not in effect. Where would the steam road be to-day which refused to interchange business with other steam roads? In fact, but for the interchange policy, with through rates and traffic arrangements, we would be to-day where we were 50 years ago. Certainly the steam roads have greatly benefited by this policy and the writer believes it a matter of vital importance to the interurbans to go deeply into the matter of interurbans to go deeply into the matter of interchange with all transportation companies with a view to working satisfactory plans for the closest The Brooklyn Rapid for the closes relations. Transit (electric) is interchanging both carload and less than carload traffic with several of the eastern trunk lines, with through tariffs and divisions in effect, and carrying an immense amount of business on an extremely satisfactory basis. Several other electric lines in the west and middle western states have such arrangements and are also netting a nice revenue. The policy of inter-change with all transportation lines opens up an almost illimitable field to the electric lines which it is not wise for them to neglect. In the writer's opinion it is not a wise policy for the electric lines to enter into contracts or leases with the old line express companies on any other than an interchange basis. At least one instance can be cited where an electric line will refuse to renew a lease to an old line express company on expiration of the present contract, taking the ground that the old line company is now receiving considerably more than the lion's share of the profits on a fixed payment basis.

PERISHABLE PRODUCTS.—By careful attention to the handling and quick delivery of fresh meats, fruit and other perishable products a large business may be created and satisfactory revenue derived therefrom. It is a class of business however that must be handled with greatest promptness and care to protect against loss through delay and consequent spoiling of shipments. Local agents should get in touch with growers and shippers of berries, vegetables other produce and should keep the soliciting department informed so that the shipper and consumer or dealer may be put in touch with a view to securing a large portion of this business from the

country towns.

CITY MATERIAL AND REFUSE. the best paying propositions for the city electric lines is the handling of city paving and building material, ashes and refuse in car lots. This business is usually handled from railway stations docks to the points where material is required, storage yards, or to city dumping grounds. It is usually handled during the night or after the passenger cars have pulled in, thus avoiding de-lay to schedules and complaints from the public. The revenue is on a satisfactory basis to the company and at the same time the city effects great saving over what the same service if handled by teams. As this business is handled in carloads and at carload rates, terminal and handling expenses

are at a minimum and where it is shown that a substantial saving is made to a city this fact tends greatly toward kindly feelings between the city officials, the general public and the company. Suitable cars should be provided for this business.

LEGAL DIFFICULTIES. - Much trouble has been encountered in various sections of the country because of legal restric-tions placed in the way of handling freight and express by the interurbans. This is a serious handicap and, in some instances, shuts out the interurbans en-The steam roads are in a great degree responsible for this state of affairs. The trend of public sentiment should be distinctly on the side of the electric lines in this matter and the writer believes that this can be brought about by properly placing the facts before the government and the people. With the universal complaints relative fore the government and to steam road rates, shortage of equipand many other unsatisfactory conditions, it seems a case of "one's nose off to spite one's face" the people of a community will deliberately turn down the electric lines in their efforts to give a service which greatly ameliorate the present conditions of freight transportation and it should be the policy of the electric siring to engage in this business to go fairly before the public and make plain the advantages to be derived from such a service.

EARNINGS .- The writer recently occasion to canvas the electric freight and express situation in certain territories as to whether or not the business was profitable to those engaged in the and the following statement enable those lines contemplating the installing of such service to judge as to One of the largest systems its merits in the United States with a total milein the United States with a total mile-age of 575, and operating 57 express and box cars, together with a number of gondolas and flat cars, all of which are equipped with motors, had for nine months of a fiscal year ended recently, gross receipts \$205,715, expense for operating \$123,560, net earnings \$82,155 or \$9,130 per month. The expense for or \$9,130 per month. The expense for operation mentioned above includes repair and renewal of track, buildings and cars, electrical equipment of cars, miscellaneous shop expense, power, operation of cars (superintendence) other car service, motorman and labor, car house employes, car house supplies, other car expenses, etc. Another line with 160 with 160 miles of track and serving 20 towns with a total population of 60,000 and operating 10 express cars with a number of flat cars is doing a freight and express business, had net earnings of \$12,000 per month with capital invested \$150,000, cost of operation, per car mile 10c., net earnings per car mile for the year vary from 35 to 60c., according to length of haul. The capital invested includes all terminals on the system together with equipment, etc. There has been a decided yearly increase in the business since its inception. Another line with business 60 miles of track and serving 12 towns with a total population of 85,000, and operating three express cars with capital invested \$30,000, is doing a business of 10 invested \$30,000, is doing a business of \$2,000 a month net earnings, net earnings per car mile 23.11c., net earnings per car hour \$2.31. This line is also showing a decided increase each year. Another line with 18 miles of track and two cars and serving seven towns has a husiness of \$175 net carryings per month. business of \$175 net earnings per month. Another line with 56 miles of track and operating 3 cars and serving 13 towns is doing a business of \$950 net earnings per month. Another line with 27 miles of track, operating 2 cars and serving 3 towns has a business of \$700 per month net earnings or \$1.47 per car hour. Another line with 12 miles of track operating one car and serving 3 towns is do-

ing a business of \$110 net earnings per ing a business of \$110 net earnings per month. The expense of operation on the above lines include repairs to equipment, power, salary agents and clerks, light, heat, water, stationery, platform expense, miscellaneous car service, etc., rent, track and terminal. Since the inception of freight and express business on each of the systems referred to above a decided increase in revenue has been shown each vear over the previous one.

a decided increase in revenue has been shown each year over the previous one. These increases range from 40 to 90%, and the results of this department are highly satisfactory to the management. In conclusion; the transportation of freight and express by the electric lines is bound to become of as much, if not of more importance than the passenger business. The experience of the steam roads teaches that the ones who look to the future will surely reap the benefit. Now is the time to provide for and build up a great transportation business. Now is the time to provide for and build up a great transportation business. Thoroughly organize your men to handle the traffic in a business-like manner. Keep ever abreast or a little ahead of the times. Reach out for new business and create it along your line, but while striving for new friends and new business don't let the old get away from you. Keep what you've got and get all you can by fair and business-like treatment of the public. of the public.

Sherbrooke Railway & Power Co.

This company, which was incorporated last session of the Quebec Legislature, has power to issue \$1,500,000 of ordinary shares, and \$1.500,000 of 5% thirty year bonds. There has been issued \$700,000 of 5% consolidated first mortgage sinking fund consolidated first mortgage sinking fund bonds, of which bonds there is held in escrow \$100,000 to retire an outstanding issue of \$100,000 of Sherbrooke St. Ry. Co. bonds due in 1927, the balance of the common stock and bonds being held in the treasury to be sold as required to meet the cost of developing the company's power plant and extension plans. Of the bonds \$600,000 were sold at 95 and accrued interest at 40% stock bonus and accrued interest, at 40% stock bonus being added. The bonds and stock bonus were to be delivered on the completion of payments.

pletion of payments.

The company has acquired the property and franchises of the Sherbrooke Street Ry. Co., which has been operating under a charter granted by the Quebec Legislature in 1895. At that time Sherbrooke's city population was about 9,000, now it is over 17,000 and still increasing. The gross earning for 1909 were \$31,222, on a small mileage and limited rolling stock. When the line is complete and the changes proposed there will be about 15 miles of track, 12 of which will be in Sherbrooke city and three outside. A 15 miles of track, 12 of which will be in Sherbrooke city and three outside. A five miles extension to Brompton, with 12,000 population, and a further eight miles extension to Windsor Mills, with about 4,000 population, are under consideration, but are not included in the present plan. Other extensions are also proposed in several directions, but these are all matters of the future.

The main feature of the company's plans is the power development. There is an old company, the British American Land Co., a concern which, under an English charter, about 75 years ago acquired most of the Eastern Townships. It owned vast tracks of land and all the water powers, as well as those which

water powers, as well as those which flow down upon the Magog River through the centre of Sherbrooke. The through the centre of Sherbrooke. The land company is being wound up and the S. Ry. and P. Co. has acquired the water powers on the Magog River in Sherbrooke. It is proposed to develop about 3,500 horse power and have about 3,000 for sale when the development is complete. The power department will, of course, be the chief profitable revenue producer.



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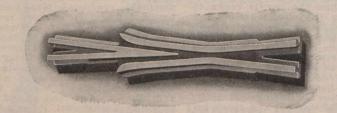
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St. & No	Contract Name of Street	

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The company intend purchasing another power, but this has not been decided upon definitely.

Sherbrooke is the centre of the Eastern Townships which forms one of the most prosperous sections of Canada. Besides this Sherbrooke is a manufacturing place and a railway centre, but the electric railway has not been extended or improved to meet the requirements of

the increase of the population. On the contrary it lapsed into a state of decay. The new company is proceeding with the reconstruction of the line and the development of the water power. The convelopment of the water power. The contracts are all let, both hydraulic and electric, and it is expected to have the new work in operation by Nov. 1. The directors and officers are: President, C. J. McCuaig, Montreal; Secreary-Treasurer, F. Thompson, Montreal; other directors: W. Farwell, Sherbrooke, Que.; E. T. Hopper, Montreal; W. H. Brouse, Toronto. F. Thompson, of F. Thompson & Co., Montreal, is at present acting as secretary-treasurer, and his firm to-& Co., Montreal, is at present acting as secretary-treasurer, and his firm together with that of McCuaig Bros., are jointly interested in the project. The officials of the company are: Acting general manager, C. B. Hibbard; Superintendent J. C., Goodwin; controlling engineers, Ross & Holgate.

Montreal Street Railway Steel Cars.

The M.S.R. is adding to its equipment The M.S.R. is adding to its equipment fifty steel pay-as-you-enter cars of its regular semi-convertible monitor roof type with an extreme length of 46½ ft. They are built of steel, with the exception of floor, roof, doors, windows and interior finish. The sides of the car are vertical from sill to belt rail with a 2½ in, cut in from belt rail to roof and are composed of 3-16 in plate reinforced are composed of 3-16 in. plate reinforced at the bottom edge with a 6 in. channel and the top edge with a steel belt ran 3 in. by % in. The main body is 32 ft. 3 in. by % in. The main body is 32 ft. long over corner posts with an extreme height of 8 ft. 7 ins. and an extreme width of 8 ft. 4 ins. The arrangement of body is in accordance with the standard P.A.Y.E. system, one swing entrance door on the left looking forward and one double sliding exit door of the M.S.R. type on the right. The front end has one single sliding exit door in the centre of bulkhead, and the motorman controls the head, and the motorman controls the outside vestibule door by means of a lever. The rear platform is 7 ft. long and fitted with brass railings to divide the incoming from the outgoing passengers, and also from the people standing on the platform. The front platform has one lateral rail, which with the vestibule exit door when open completely divides the motorman from outgoing passengers. Both platforms are supported by 7 ft. x 3½ x % in. angles reinforced on their bottom edges with 3 x 2½ x % in. angles, and secured to the end sills with a heavy steel casting. On the step side these angles are offset that they may clean the steel casting. On the step side these angles are offset that they may clear the angles are offset that they may clear the wheels when taking curves. The side posts are all of steel T shape $2\frac{1}{2} \times 2\frac{1}{2}$ ins. covered with wood to take windows, and are riveted at their top ends to an angle iron runner $4 \times 2\frac{1}{2} \times 3$ ins. These posts are also riveted to the 3/16 in side plate, giving this plate the required vertical stiffening. All the corner posts for body and vestibule have large round corner and are pressed from 3/16 in. corner and are pressed from 3/16 in. plate. The interior framing and cross sills are made from 6 ins. channel. End sills of 6 ins. ship building channel with a 3½ in. flange and are connected by a heavy steel angle casting with side sills. The bolster is of the regular open dlamond pattern with a top plate of ¾ x 10 ins. and bottom plate 1 x 10 ins., the two brought together at their ends, riveted and bent to form an L shape upon which the side sill rests. The side

sill channels at this point are filled with a steel casting through which the rivet headed bolts securing the bolster pass from the outside face of side plate.

The roof is of the usual wooden construction reinforced with 1½ x % in. steel rafters at each post which are connected directly to the 4 x 2½ x % in. angle iron runner by a malleable iron casting. The lower or main roof in this car, instead of being rounded, as is usual in most cars of the type which have been made so far, is made flat and given a pitch of about 1 in 12 ins. in order to give sufficient height for the window give sufficient height for the window used, most of the older windows being of a drop type. The floor is made of 1½ in. Georgia pine nailed to pine filler pieces in cross still channels. The aisle and standing space at both ends is covered with 3½ interested in the covered with covered with % in interlocking rubber tiling in two colors, let flush into wood-en floor. The motor traps and openings en floor. edged with brass to preserve the

All of the 24 windows in the body of the car are made in two pieces, the smaller upper part remaining stationary and the unusually large lower portion is arranged to rise and lock in any position up to full opening. When opened to the up to full opening. When opened to the fullest dimension, the bottom of window is well above the passenger's head, thus giving a large free opening for observation and circulation of air. Front and rear vestibule windows are arranged to drop into wall pockets for about two-thirds of their lengths and the panelling in front of these is secured with screws to facilitate removal for cleaning and repairs. Four of the monitor deck sashes at each end on both sides are hinged es at each end on both sides are infiged at their rear ends to swing outwards for ventilating purposes. The front and rear steps of the car are made of oak covered with checked tread plates of hard lead.

The seating capacity of this car is 42, and somewhat changed from the ordinary seating arrangement heretofore followed. Longitudinal seats are used in front and rear, and 12 cross seats are placed in the centre of the car. These seats are all covered with rattan with brass trimmings, and there is a brass hand grip in the terror of seet back. hand grip in the top corner of seat back at aisle end.

Electric lighting is done by four clusters of two lights each set in the monitor roof and five lights on each side set on main roof at edge of clearstory. The rear platform has one cluster of three lights and two lights are placed on the roof of such vestibule for illuminated signs. The electric signal bell is operated by a push button in each post, placed within easy reach for signalling conductor.

The car is heated with electric heaters distributed throughout the car body beneath the seats, and two in addition are placed in the motorman's vestibule, thus distributed heat. These are controlled by a locked iron case at the rear of the Air brake compressor and governor are placed in the front vestibule, to-gether with the front end sand box. The rear end sand box is placed beneath the longitudinal seat.

All window openings in car body are guarded with brass rod guards. The guard on the outside or step side of car is three bars high, while the guard on the inside of the car is six bars high. Emergency hand-brake of a folding type is placed in rear vestibule and regular ratchet brake in usual position in front

The painting of the car is the standard M.S.R. type and the usual warning of P.A.Y.E. is given by having the number in large figures on front vestibule. The front, rear and side signs are of the standard illuminated roller type.

ELECTRIC RAILWAYS. Projects, Construction, Betterments, Etc.

Brantford and Hamilton Ry.—The Eoard of Railway Commissioners has passed an order dividing the cost of the reconstruction of the Market Street Fridge at Brantford, Ont., between the P. & H.R. and the T., Niagara, St. Catharines and Toronto Ry., provided it did not withdraw its plans. If the plans of the reconstruction Brantford and Hamilton Ry.-The did not withdraw its plans. If the plans be withdrawn the cost of reconstruction be withdrawn the cost of reconstruction will be divided among other parties. Application has been made for permission to build a wooden foot bridge across the canal level and the B. & H.R. at Mary St., Brantford. The matter was referred to the Board's engineer. (July, 1909, pg. 521) 1909, pg. 521).

British Columbia Electric Ry.—The Vancouver, Fraser Valley and Southern Ry. Co., a subsidiary of the B.C.E. Ry., Ry. Co., a subsidiary of the B.C.E. Ry., was incorporated by the Dominion Parliament, to build a line from near the south-east portion of False Creek, easterly through Hastings and Burnaby to the south of Eurnaby Lake, and entering New Westminster by way of Sapperton. The company may extend its lines the south of Eurnady Lake, and entering New Westminster by way of Sapperton. The company may extend its lines south of the Fraser Valley, but at present no plans for such extensions have been made. The line which will be built to the standard of the steam railways, will be on its own right-of-way, and will be operated by electricity. The right-of-way for the line from False Creek to New Westminster has already been acquired: construction has been started and the line will be completed within a year. There are three construction camps on the route one at Hastings townsite. one at Burnaby Lake, and the third at Cumberland St. The work to be done is not heavy, but there are a good many culverts to be built, the largest being at Burnaby.

largest being at Burnaby.

A contract is reported let to McAlpine, Roberts & Co., for the grading of 1.66 miles of line from the end of the

pine, Roberts & Co., for the grading of 1.66 miles of line from the end of the present Lynn Valley line to the school house on the Pipe Line road near the Capilano Canyon. The route is along the Mackay road, and it is expected that the line will be completed and put in operation this season.

A regular car service was put in operation on the New Westminster-Chilliwack line as far as Milner, July 1. The line has been completed so as to enable a car to be run into Abbotsford, and it is expected that a regular service will shortly be installed. Track has been laid to about a mile on the Chilliwack side of Huntingdon, and ballasting is being gone on with. It was expected that the wiring which is being gone on with ahead of the tracklaying would be completed July 15, and that the whole line would be completed so as to be put in operation Oct. 1. Plans for the station at Chilliwack have been prepared and tenders for its construction are under consideration. tenders for its construction are under consideration.

A bylaw has been passed by the Point Grey council, and was submitted to the ratepayers July 23, providing, among other things, for a 40-year contract between the municipality and the company. The contract authorizes the building of contain lines within the municipality of contain lines within the municipality. pany. The contract authorizes the building of certain lines within the municipality, and sets out the terms upon which that are to be operated. The municipality are to be operated. panty, and sets out the terms upon which they are to be operated. The municipality may upon giving notice take over the lines at the end of 40 years, otherwise under the provisions of clause 34, the contract is to run for 99 years, upon terms to be mutually agreed upon at that time.

At a meeting of the South Vancouver council. July 6, the company was given permission to build a second track on Westminster Ave., between 25th Ave. and

Bodwell road.

The B.C.E. Rv. through the Vancouver Power Co. is preparing to start

work upon the development of the water power at the outlets of the Chilliwack and Jones lakes, about 60 miles east of Vancouver. It is estimated that 110,000 continuous h.p. will be developed, at an approximate cost of \$9,354,000. The work is expected to be completed in about five years. Under the terms of the order-in-council the company has five years to complete the work at Jones Lake, which will give 30,000 h.p., and 10 years that at Chilliwack Lake, which will give 80,000 h.p. The water in the lakes will be controlled by dams 50 ft. high, and will be carried in a flume and pipe lines to the power house, with a total fall of 1,800 ft. It will be possible to utilize a considerable quantity of water from the flume for irrigation purposes.

Grand Valley Ry.—The Brantford, Ont., city council has directed the company to resume the service to West

Grand Valley Ry.—The Brantford, Ont., city council has directed the company to resume the service to West Brantford according to the terms of the franchise; and agreed to support the company's application to the Board of Railway Commissioners for permission to build a siding along the front of Jubilee Park to connect Holmedale with the G.T.R., and the Toronto, Hamilton and Buffalo Ry. This application has been refused by the Commissioners. A contract is reported to have been let for the construction of 11 miles of track in the city. The track, it is said, will be laid on oak ties embedded in 12 inches of concrete, 80 lb. steel to be used. (June, pg. 495).

Hamilton, Waterloo and Guelph Ry.—A report was current in Hamilton, Ont., July 9, that the proposal to build this electric railway was likely to be abandoned, but those who are in touch with J. Patterson, who is promoting the company, discredit the report. He went to London, Eng., about a month ago, to arrange for the financing of construction, and nothing definite will be known as to construction prospects until his return. The project had been favorably reported upon by the Westinghouse Church-Kerr Co. The cost of the entrance into Toronto, and of the terminals was expected to be high; owing to the fact that a tunnel, two miles long might have to be built. The cost of the entrance into Hamilton was also expected to be high, and some authorities think it is altogether prohibitive. (June, pg. 495).

built. The cost of the entrance into Hamilton was also expected to be high, and some authorities think it is altogether prohibitive. (June, pg. 495).

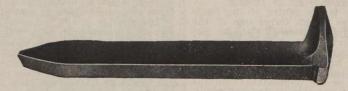
Hull Electric Co.—In connection with the extension of the line along Brewery St., from Main St., out to the first tollgate on the Chelsea road, an agreement has been reached by which the company will repair the street between these two points, the city supplying rough stone free, and crushed stone at 50 cents a yard at the crusher. (July, pg. 584).

Kingston, Portsmouth and Cataraqui Ry.—The Kingston, Ont., board of works, has decided to ask the company if it will pay a share of the cost of new

Kingston, Portsmouth and Cataraqui Ry.—The Kingston, Ont., board of works, has decided to ask the company if it will pay a share of the cost of new rails and ties and a concrete foundation, should Princess and King Streets be relaid. It was stated at the meeting of the board, July 8, when this decision was reached, that the President of the company had stated that it would not pay anything. (June, pg. 495).

Monarch Radial Ry.—At a meeting of the Barrie, Ont., town council, July 6, consideration was given to a proposed agreement with this company for the construction of an electric railway through the town. The company desired to purchase its own right of way from

Monarch Radial Ry.—At a meeting of the Barrie, Ont., town council, July 6, consideration was given to a proposed agreement with this company for the construction of an electric railway through the town. The company desired to purchase its own right of way from Toronto to Barrie, and from Barrie to Owen Sound, but it desired to run over Allandale and Barrie streets, using the main line as the basis of a local system. A provisional arrangement has been made for a 25 year franchise, and the town solicitor is drawing up a by-law for submission to the electors. Franchises are reported to have been granted to the company in several rural municipalties, and Orillia Town Council is now being approached. (Mar., pg. 231).



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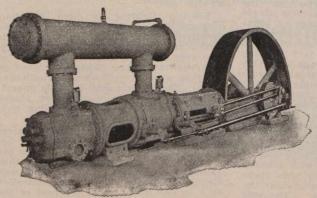
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Montreal Street Ry.—The Montreal city council has under consideration a proposal for the erection of poles in the city sufficient to carry all the electrical wires, now carried by the street railway company's poles, and other electrical companies having independent pole lines.

The question of additional lines is being considered by the city council and considerable opposition is being made to the company's application for permission to build on Dorchester and Sherbourne streets

Plans for new car barns have been prepared, the estimated cost being put at \$1,000,000. (June, pg. 495).

Moose Jaw Electric Ry.—We are officially advised that the title of the company with which an agreement has been made for the construction of an electric railway in Moose Jaw, Sask., is the Moose Jaw Electric Ry. Co., and that the officers and directors are as follows:—President, A. A. Dion; Vice President, N. J. Ker; directors: J. D. Cashman, E. J. Daly, P. D. Mellon, D. O'Connor, Jr., E. M. Saunders, D. R. Street. Messrs. Cashman and Saunders reside in Moose Jaw, the others in Ottawa, Ont., and D. R. Street is Secretary. It was expected that construction would be started under the agreement by the end of July, and it is hoped to have six miles of track laid during the present season.

J. McRae, Consulting Engineer, with H. A. Dion, as Assistant Engineer, arrived in Moose Jaw from Ottawa, July 16, to supervise the construction of the line.

The M.J.E.R. Co. has been incorporated under the British Columbia Companies Act with a capital of \$400,000 in \$50 shares, to construct electric railways, etc., in British Columbia and Saskatchewan, and elsewhere. (See Moose Jaw, Sask., July, pg. 585).

Nanaimo, B.C.—The Dominion Stock and Bond Corporation, through G. H.

Nanaimo, B.C.—The Dominion Stock and Bond Corporation, through G. H. Salmon, Vancouver, has submitted an offer to the city council of Nanaimo, B.C., to build and operate an electric railway there. The proposal is to build altogether 20 miles of single and double track lines, to serve Nanaimo, Wellington and Ladysmith, provided the city guarantee the company's bonds to \$15,000 a mile, or a total of \$300,000, the city taking a first mortgage on the line and rolling stock. An arrangement was made by which the project will be discussed at a public meeting.

Nelson Elecric Street Ry.—The work of overhauling the old electric railway line has been practically completed. The overhead work has been renewed, and a new switchboard has been installed in the sub-station. The electric work has been done under the charge of R. A. Brown, city electrician. The line was expected to be re-opened for traffic July 30. (July, pg. 585).

Ontario West Shore Ry.—The point in dispute between the company and the Colborne township council, as to the crossing at Dunlop, is just what a crossing is. Instead of making the shortest possible crossing of the public road, the company laid its track along the highway for a short distance in order to avoid having to purchase and take down a building. The settlement made upon the Ontario Railway and Municipal Board's advice involves the abandonment of all proceedings, each party paying its own cost, the Board to decide whether a by-law will be necessary in order to permit the track to remainand the company to protect the crossing and to be liable for damages through accidents caused at it. The company has purchased a locomotive and is using it upon construction. (July, pg. 585).

Owen Sound, Ont.—Dr. C S. Fenton, and T. Fleming. of Cleveland, Ohio,

recently visited Owen Sound, Ont., and looked over the situation with a view of submitting a proposition for the building of an electric railway there, and taking up the project for the construction of the Owen Sound and Meaford Ry. R. M. McDowell, C.E., gave them all information available as to routes, etc., and E. Lemon. chairman of the local railway committee discussed the possible details of a franchise.

Peoples Ry.—We were advised July 13, that work had been started by the company itself on the grading of this projected electric railway between Berlin and Guelph, Ont., and it was intended to let a contract for grading between Berlin and New Hamburg in about 10 days thereafter. It is hoped to have this grading completed by Dec. 1. This covers the 29 miles for which tenders were recently asked. The work includes the building of five piers in the Grand River to carry four steel spans of 100 ft. each. It is expected to have the piers completed by Dec. 1, to have the steel work in place during the winter; and to have track laid between New Hamburg and Guelph by June or July, 1911, and the line in operation in Aug., 1911. The track will be laid with 70 lbs. T rails; and the tenders under consideration provide for the fencing of the line, and the overhead work. A grading outfit was being delivered at Berlin, July 5, and teams and men were engaged by A. U. Warfield, July 6, and following days.

The agreement with the city of Guelph has been drawn up and is before the city council for final approval. The agreement calls for the purchase by the city of \$85,000 of cumulative 6% preference stock. The grading for the line from Bloomingdale to Guelph must be done by Dec. 31, 1910. and the line from Ber-lin to Guelph completed and cars running by Oct., 1911. Construction on the Guelph to Arthur line must be commenced by April 1, 1911, and the line from Arthur to Fergus and Elora must be completed and in operation by June, 1912, and the line to Arthur by Dec. 30, 1912. The company must apply for legislative authority to construct the Guelph-Puslinch Lake line, and shall commence construction by April 1, 1911, the line to be in operation by June 15, An allowance of six months will be made to the company in case of de-lays occasioned by default other than its own; the company must not issue bonds to the amount of more than \$16,000 a mile; any extra cost on paved streets is to be paid by the company, and if the bylaw, to be submitted, fails to carry, the company is to pay the entire cost of its submission.

The ratepayers of New Hamburg, Ont., have passed a bylaw granting a franchise through the village to the People's Ry., and the ratepayers of Wilmot tp. have passed a bylaw authorizing the township to subscribe for \$30,000 of stock in the company.

Port Arthur and Fort William Electric Ry.—The manager has been instructed by the joint board to complete the Arthur St. extension as quickly as the time at his disposal will permit. The Ontario Railway and Municipal Board has reserved judgment on an application to compel the joint board to operate what is known as the Montreal St. extension at West Fort William. The reason why it has not been operated up to the present is that it crosses 12 railway tracks on the level and it is claimed that Fort William should have built a subway at the crossing according to the terms of an award of the Ontario Railway and Municipal Poard.

The question of the operation of the line on Montreal St. Fort William, Ont., is still under consideration by the Commissioners. The line across a number of steam railway tracks, under which the

Port Arthur people say the Fort William people should build a subway, or undertake to pay the damages arising out of any accident if the cars be operated on the level across these tracks. (May, pg. 399).

Toronto's Tube Ry. Proposals.—The New York Engineers, Messrs. Jacobs and Davis, who were engaged by the Toronto city council to make a report as to the construction of a tube system of railways in the city, have been supplied with all the information available. Some members of their staff spent some days in the city looking over the proposed routes, borings to show the strata were made and other information collected. An interim report is expected at an early date. (June pg 497)

lected. An interim report is expected at an early date. (June, pg. 497.)

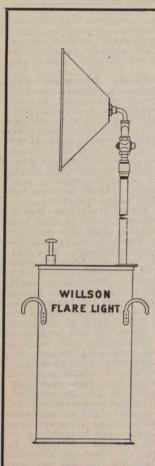
Quebec Ry., Light, Heat and Power Co.—We are officially advised that the company filed plans July 11 for the building of an upper level railway to the Montmorency Fall's part. The line will branch off from the present main line just east of Beauport station, 2.5 miles east of Quebec, and follow south of the main road to within 150 ft. of the park, when it will cross the road to the north and loop round in a lot owned by the company. The length of the new line will be 3.3 miles. It will be double track, and its construction will obviate the very tedious delays at present experienced by passengers to the park having to take the elevator, which is not of sufficient capacity. The right-of-way is being acquired, for the line for which a very good location has been secured, the gradient not exceeding 3% at any one point. It is intended to proceed with construction at once and it is hoped to have the line in operation by Sept. 1.

At a meeting of the city council, June 30, the plans for the new building on the site of the Jacques Cartier market were considered, and the company was given permission to build out under the sidewalks. on all four sides, the roadway to be restored to its present condition. The council also discussed the question of an extension of the line to St. Valier tollgate and up Lesage Ave., and the construction of bridges over the St. Charles River. This question subsequently had been before the Board of Railway Commissioners, so far as the crossing of the C.P.R. at two points was concerned the city's application being thrown out on the grounds that it had no power to act. The matter was discussed by the directors June 30, when it was stated that an arrangement might be made with the city by crossing the C.P.R. once instead of twice. As to the building of bridges across the St. Charles River the directors favored the policy of building in conjunction with the city.

The matter of the extension of the line in St. Saveun and Limoilon was discussed with the city council privately July 7, but nothing definite resulted. The suggestion is that the line should be extended from its present terminus at the exhibition grounds as far as Charlesbourg road which the directors were in favor of doing at as early a date as possible, to take care of the largely increasing business.

The arrangements for the extension of the line to Sillery, which is to be built under the Quebec County Ry.'s charter are being completed. An agreement has been made with the Montcalm town council, by which a 30-year franchise has been granted for the line along St. Cyrille road, from Maple Ave. to Belvedere road, about half the length of the proposed line. The opening of St. Cyrille road to Sillery is being arranged with the land owners. The plans were ratified by the directors July 11, and the building of the line is expected to be put in hand at once. (July, pg. 585).

Regina, Sask .— In connection with the project to construct an electric railway



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in the city, an estimate of the cost of miles of line has been submitted to a committee of the city council. The estimate provides for a double track on paved streets and single track on unpaved streets; and all necessary overhead work, but excluding cost of cars, car barns or power plant. Double track on Albert St., and Dewdney St., south through the subway, 2.25 miles would cost \$78,750; and 1.75 miles of single track would cost \$31,500; engineering and overhead expenses would cost \$4,750, making a total cost of construction of \$115,000. (June, pg. 497).

Saskatoon. Sask. Application has been made to the city council, on behalf of a Eritish company, that the rate-payers be asked to vote on the question of the construction of an electric railway in the city, and whether they are in favor of private or municipal ownership.

Stratford, Ont.—The city council decided to submit a bylaw, July 29, granting a franchise for an electric railway in the city. The new company is said to be in no way associated with the Peoples Ry., the Stratford and St. Joseph's Radial Ry.. or any of the other companies which have been trying to get the money to build an electric railway in and through Stratford. The proposed bylaw sets forth that T. O. Robson, H. L. Rice. D. Bouis, and A. Baird, of St. Mary's, propose to apply to the Ontario Legislature incorporating the Stratford Ry. Co. with power to build electric railways in and through Stratford and in the neighborhood; and provides that in the event of the charter being granted the company may build and operate an electric railway on certain streets within the city; build sidings to factories fronting or abutting on streets whereon the railway is built; may carry freight and baggage as well as passengers; but only on certain streets; freight is not to be collected or delivered except from sidings or a freight shed, and freight cars are not to be permitted to stand on the streets except at certain specially designated points. When the city population has reached 30,000 the company is to build an additional half mile of track for each 2,000 of population above 25,000. Provision is also made in the bylaw as to passenger fares, rates of speed, etc., and for the starting of construction within six months after the passing of the act. It is also provided that power is to be taken from the Hydro-Electric Power Commission from the stepping down station at Stratford.

Local reports refer to this line as being promoted in the interests of the St. Marys and Western Ontario Ry., which is controlled by the C.P.R. Of those named in the agreement with the Stratford city council. T. O. Robson, was one of the original directors of the St. M. and W.O. Ry.

Toronto and Eastern Ry.—An engineering party is reported to be engaged in making a survey for this projected electric railway, from Toronto to Cobourg, Ont., with a branch northerly from Oshawa to Lindsay, and an extension southerly to the Oshawa harbor. Press reports state that it is the company's intention to proceed with the construction of the line between Toronto and Bowmanville this fall.

Toronto Ry.—The question of the condition of the tracks on Dundas St., West Toronto, came before the Ontario Railway and Municipal Board, July 7, when it was admitted by the company that 25% of the track required to be relaid. Some of the condition of the line, it was stated, was due to work done about three years ago by the West Toronto city council, before its amalgamation with the city of Toronto. Judgment was reserved.

H. S. Osler, K.C., informed the Ontario Railway and Municipal Board by letter, July 14. that the company accepted the terms of the Board's order of May 18, given in our July issue, pg. 585, providing for the extension of its tracks and the building of new cars. It is expected that the building of the new lines will be gone on with at once.

Toronto, Niagara and Western Ry.—

Toronto, Niagara and Western Ry.—
The Board of Railway Commissioners order referred to in our last number, was issued July 12. It authorizes the company to construct its line on the level across a large number of streets in the north west part of Toronto, but is added that if at any time the C.P.R. is ordered to elevate its tracks in the north of the city, the T.N. and W.R. must follow suit, and that it shall also provide such protection at the crossings as shall be directed by the Commissioners from time to time.

Plans of the revised location for the section of the line between Burlington and Hamilton, have been filed with the Hamilton city clerk. The new route for the east will carry the line along the north shore of the bay, skirling the water instead of the high land; crossing the bay on trestles, and under the G.T.R. at Desjardins bridge, and paralleling to the city limits the short piece of line owned by the C.P.R. which gives that company a connection between the G.T.R. and T., H. & B.R. tracks. The Dundas council, as well as the Hamilton city council, is opposing the plans before the Board of Railway Commissioners, particular objection being taken to the bridge over the Desjardins canal. The Commissioners decided that the company would have to make a special appeal to the Government as to the bridge. The matter is still under consideration. (July, pg. 585).

Welland, Ont.—C. J. Laughlin, who is negotiating franchises for an electric railway in Welland, and to Welland Jct. Ont., stated recently, that the company would have its line completed within five months from starting work, and would give a 15 minute service between the two points named.

would have its line completed within five months from starting work, and would give a 15 minute service between the two points named.

The Dunnville, Wellandport and Beamsville Ry., and the Niagara Falls, Welland and Dunnville Ry., have charter powers covering such a line.

Winnipeg Electric Ry.—No progress is being made with the company's application to the courts to have bylaw 5907 passed by the city council, respecting poles and wires. quashed. (July, pg. 585)

Electric Ry., Finance, Meetings, Etc.

British Columbia Electric Ry.—Gross earnings for May, \$256,806; working expenses \$156,065; net operating revenue, \$100,741; renewal funds \$17,852; net earnings \$82,889; approximate income from investments, \$16,500; net income \$99,389, against \$197,802 gross earnings; \$116,000 working expenses; \$81,802 net operating revenue; \$13,958 renewal funds; \$67,844 net earnings; \$13,550, approximate income for investments; \$81,394 net income for May, 1909. Aggregate gross earnings for 11 months ended May 31, \$2,728,437; net earnings, \$1,147,106, against \$2,098,154 gross and \$942,925 net for the same period 1908-09.

The Dominion Power and Transmission Co., for the past half year has not paid any dividends on its stock, using the available profits for improvements upon its electric railway lines. It is reported that at the July meeting, held in Hamilton, the directors decided to resume paying dividends next half year.

Halifax Electric Tramway.—Railway receipts for June. \$18,257.05, and for two weeks ended July 14, \$9,975.77, against

\$17,300.48 and \$8,648.09 for same periods 1909.

London St. Ry.—Gross earnings for May, \$19,294.92; operating expenses \$14,603.04; net earnings \$4,691.88; deductions \$2,441.75; net income \$2,250.13, against \$19,172.85 gross earnings; \$14,-191.27 operating expenses; \$4,981.58 net earnings for May 1909. Aggregate gross earnings for five months ended May 31, \$94,359.60; operating expenses \$70.571.68; net earnings \$23,787.92; deductions, \$11,893.85; net income, \$11,894.07, against \$89,809.25 aggregate gross earnings; \$67,246.16 operating expenses; \$22,563.09 net earnings for same period 1909.

Port Arthur-Fort William Electric Ry.—The financial statement for April shows; passenger earnings, \$9,250.17 gross earnings \$9,650.24; expenditure \$6,798.99; net earnings, \$2,851.25. Car mileage, 39,385 miles; gross earnings per car mile, \$24,533; operating expenses per car mile, \$17,285; net earnings per car mile, \$7,248.

St. Thomas St. Ry.—The receipts for the five months ended May 31 were, \$8,345.67, against \$9,241.63 same period 1909; and the expenditures \$14,546.53, against \$12,321.77. In the expenses for 1909 there was included \$2,062.94 for power, but nothing has been paid on account of power this year. During the five months to May 31, there were 120,-176 passengers carried, against 165,600 in the same period of 1909. The number of pasengers has been steadily falling off since 1907, and the manager stated two causes had tended to bring about the decrease, one being the institution of the delivery of letters by the post office and the other the opening of the Ross St. subway. The question of the rental of the right to run over the city lines by the London and Lake Erie Ry, and Navigation Co., (The old South Western Traction Co.,) was considered, and it was suggested that the company be asked to pay an increased rental as it is now going a seven instead of a six-day service.

Montreal St. Ry.—Passenger earnings for June, \$373,258.80; miscellaneous earnings \$11,305,31; total earnings \$394,564.11; operating expenses \$198,484.62; net earnings \$185,715.49; city percentage on earnings \$39,463.79; interest on, bonds and loans \$15,036.62; rent leased lines \$552.90; taxes \$4,000; total charges \$59,053.31; surplus, \$126,662.18; expenses per cent. of earnings 51.71, against \$342.293.02 passenger earnings; \$12,624.57 miscellaneous earnings; \$12,624.57 miscellaneous earnings; \$34,917.59 total earnings; \$187,-320.38 operating expenses; \$167,597.21 net earnings; \$33,120.71 city percentage on earnings; \$14,514.96 interest on bonds and loans: \$498.67 rent leased lines; \$3,000 taxes; \$51,134.34 total charges; \$116,462.87 surplus; 52.78 expenses per cent. of earnings for June 1909. Aggregate passenger earnings for nine months ended June 30, \$3,018,903.81; miscellaneous earnings \$72,895.75; total earnings \$3,041,799.56; operating expenses \$1,806.291.83; net earnings, \$1,285,507.73; city percentage on earnings, \$205,108.34; interest on bonds and loans \$131,681.65; rent leased lines \$4,813.35; taxes \$36,000; total charges \$377,603.34; surplus \$907,904.39, against \$2,730,032.60 aggregate passenger earnings; \$61,940.67 miscellaneous earnings \$2,791,973.27 total earnings; \$1,688,603.30 operating expenses; \$1,103,369.97 net earnings; \$169.241.78 city percentage on earnings; \$169.241.78 city percentage on earnings; \$169.241.78 city percentage on earnings; \$150.241.78 city percentage on earnings; \$25,800 taxes; \$335,691.20 total charges; \$767,678.77 surplus for same period 1908-09.

Montreal Terminal Ry.—Officials of the Montreal Street Ry., owning the M.T. Ry., stated July 13, that there was

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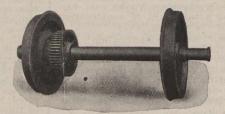
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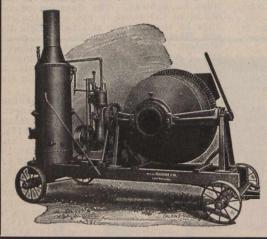


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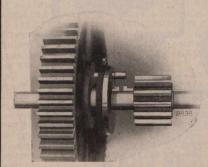
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no truth in the press reports that the section of the M.T. Ry. from Maisonneuve and Bout de l'Île had been sold to the C.P.R. This section of the line is largely used by the C.P.R. for switching cars from its lines to the factories in the Maisonneuve district.

Quebec Ry., Light, Heat and Power Co.—It is said application will be made to have the company's stock listed on the Bourse in Paris, France, and on the London, Eng., stock exchange.

Toronto Ry.—Gross earnings for May, \$353,791; operating expenses \$170,426; net earnings \$183,365, against \$323,722 gross earnings; \$155,919 operating expenses; \$167,803 net earnings for May 1909. Aggregate gross earnings for five months ended May 31, \$1,656,842; net earnings \$786,460, against \$1,483,750 gross and \$708,744 net for same period 1909.

Winnipeg Electric Ry.—Gross earnings for May, \$238,240; operating expenses \$117,812; net earnings \$120,428, against \$189,564 gross earnings; \$96,014 operating expenses; \$93,550 net earnings for May 1909. Aggregate gross earnings for five months ended May 31, \$1,289,774; net earnings \$629,587, against \$1,017,067 aggregate gross earnings, and \$503.589 net earnings for same period 1909.

Electric Railway Notes.

The Quebec Ry., Light, Heat and Power Co., has received two 18-seat pay-as-you-enter cars, from the Ottawa Car Co., Ottawa.

The Montreal board of control proposes to recommend to the city council that it take over and operate the incline Ry, at Mount Royal.

The Peoples Ry. has received tenders for the supply of a number of car bodies, and trucks. It is proposed to complete the cars at Berlin, Ont.

The Edmonton Radial Ry., has received two pay-as-you-enter cars, with 27 G.1 trucks, and one tower wagon from the Ottawa Car Co., Ottawa.

The Judicial Committee of the Imperial Privy Council, has disallowed the appeal in the case of the Berlin and Waterloo St. Ry., against the city of Berlin, Ont.

The B.C. Electric Ry. Co., has been given permission by the British Court of Chancery, to extend its powers in the direction of acquiring gas works, mining and lumbering interests, etc.

R. Smith. of the London and Lake Erie Ry. and Transportation Co.'s staff, was presented with an address and a marble clock by the passenger staff, on the occasion of his marriage recently.

An increase of wages has been given to the men employed on the Port Arthur-Fort William Electric Ry., and the strike, which was threatened at the end of June has been averted.

E. Zimmerman, motorman, one of the survivors of the Lakeview car accident, near Vancouver, B.C., in Nov., 1909, has been awarded \$6.500 and \$520 expenses, against the B.C. Electric Ry.

Press reports from Port Arthur, Ont., state that N. C. Pelcher, Manager Port Arthur and Fort William Electric Ry., has resigned, on acount of disagreements with one of the members of the commission operating the railway.

D. J. McQuarrie, formerly manager of the B.C. Electric Ry. city and interurban service, New Westminster, was presented with an address, an arm chair and a silver tea service, by the employes, on his leaving the service recently.

The Toronto Suburban Ry., has ordered two pay-as-you-enter cars, with 32 ft.

bodies, 7 ft. vestibules at each end, 46 ft. total length, on trucks with wheel base 4½ ft., 4 ft. 10 % ins. gauge. The car bodies are finished within and without in cherry.

The Nipissing Central Ry., operating between Cobalt and Haileybury, Ont., is reported to have ordered two trailers from the Preston Car and Coach Co., Preston, Ont., and also an additional generator set. The trainic, especially in the evenings, has increased at a quicker rate than was anticipated.

British Columbia courts have awarded \$10,000 damages to the widow and child of a man who was killed in the Lakeview accident on the B.C. Electric Ry., last year. The company admitted liability and left it to the jury to assess the damages. Mrs. A. E. Kealy of North vancouver has also recovered \$700 for injuries sustained in the same accident.

The Montreal board of control has passed a resolution calling upon the Montreal Street My. to take steps to lessen the number of ratal accidents arising out of the operation of the railway. The board of which F. L. Wanklin, formerly manager of the M.S.R. is a member should know that the company is more interested in the prevention of accidents than anyone else.

A difficulty has arisen in Montreal as to the payment by the Montreal St. Ry., of percentage on fares. Since the agreement between the company and the city was entered into, there have been several annexations to the city, and the point which is being discussed, is whether the city is entitled to collect a percentage on fares paid on a route which is only partly within the city limits.

A board of conciliation has been appointed under the Lemieux Act, in the difference between the Toronto Ry. and its employes. The men ask 25c. an hour for first year men and 28c. an hour for all others, while the company suggests the adoption of the Montreal scale which is at the rate of 20c. and 21c. an hour. This rate, except for first year men, is less than is at present paid in Toronto. The board consists of J. G. O'Donoghue, K.C., representing the men; J. P. Mullarkey, representing the company, with Judge Barron, Stratford, Ont., as Chairman.

Telegraph and Cable Matters.

B. S. Jenkins. Superintendent of Telegraphs, C.P.R. Western Lines, visited a number of Pacific coast points during July, on a trip of inspection over the company's telegraph system.

It was announced in London, Eng., July 11, that the Marconi Wireless Telegraph Co., would receive messages for transmission, by wireless, to Eastern Canada, at sixpence a word.

The St. John Nfld., city council has decided to dismiss the Commercial Cable Co.'s application for exemption from taxation on its cables on the city streets.

The Newfoundland Government has decided to erect wireless telegraph stations at Fogo, Grey Islands, Belle Isle and along Labrador, to enable communication to be kept up with the sealing steamers during the season, and for general purposes.

Representatives of the Western Union Telegraph Co., returned to St. John, N.B recently from Newfoundland, where they had been for the purpose of locating a site for the landing of cables. It is understood that Bay Roberts has been selected, but nothing definite has been decided.

The Board of Railway Commissioners will sit in Winnipeg, Sept. 22, to hear,

among other things, an application by the Winnipeg Board of Trade, and the Grain Exchange for the setting aside of the tariff of telegraph toils charged by telegraph companies operating into and out of Winnipeg.

W. C. Muir, heretofore Superintendent Canadian Northern Telegraph and Express Companies, has been appointed General Superintendent Canadian Northern Telegraph and Express Companies, with office at Winnipeg, Scott Gritin, heretofore Manager at Toronto, having been appointed Manager Canadian Northern Steamships Ltd., London, Eng.

The board of conciliation appointed to enquire into the matters between the C.P.R. and its commercial telegraph operators, consists of J. E. Duval, Manager Canadian Car Service Bureau Eastern Lines, Montreal, chairman; F. H. McGuigan, Toronto, formerly Fourth vice President G.T.R., representing the company, and D. Campbell, Toronto, on behalf of the operators.

The Dominion Government is reported to have entered into an agreement with the United Wireless Telegraph Co., as to the charges for communication between Dominion Government stations on the Pacific coast and vessels equipped with the United company's system. The rates generally are based on those agreed to at the Berlin convention, to which the U.S. was not a party, but by which the company has agreed to abide. The charge is \$2 for 10 words and 2c. a word, of which amount, the land station receives 60% and the vessel 40%.

R. F. Easson, Superintendent of the press and commercial news department G. N. W. Telegraph Co., Toronto, who retired from the service recently, entered telegraph service with the Montreal Telegraph Co., at Toronto, in 1844, as messenger, and with the exception of a short period, from 1853 to 1855, spent in Chicago, his entire service has been in Toronto. He was appointed chief operator Montreal Telegraph Co., in 1864, and on the taking over of the property by the G.N.W. Telegraph Co., in 1882, he was appointed to the position which he has just resigned.

The balance sheet of the Marconi Wireless Telegraph Co. for 1909, presented at the recent annual meeting in London, Eng., shows a net profit of f11,400, out of which, interest on the 7% cumulative preference participating shares has been paid, and the balance carried forward. The report states that considerable progress was made during the year, and but for the fire which destroyed the Glace Bay station, then nearing completion, the result would have been better still. The new station is better in every way than the previous one, and a large increase has been made in the business handled. It is also stated that arrangements have been made, whereby the Canadian company will be in a position to repay the greater part of the £144,300. owing by it to the English company.

Dominion Telegraph Company.

The report for the year ended June 30, shows assets of \$1,309,876.25, and liabilities of \$1,015.878.63, with a balance at credit of profit and loss of \$293,997.62. The Western Union Telegraph Co., which has a 99 year lease of the property, has distributed the guaranteed interest at 6%, quarterly, in advance, for the past 30 years. Following are the officers and directors for the current year: President, T. Swinyard; Vice President, Sir Henry M. Pellatt; Secretary and Treasurer, F. Roper; other directors, B. Prooks, T. F. Clark, Col. R. C. Clowry, Æ. Jarvis, C. O'Reilly, and A. G. Ramsav.

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"Western Progress."—An illustrated monthly bulletin, presenting in concise form up-to-date information concerning agricultural and commercial conditions in Western Canada, and containing announcements regarding the Company's new towns.

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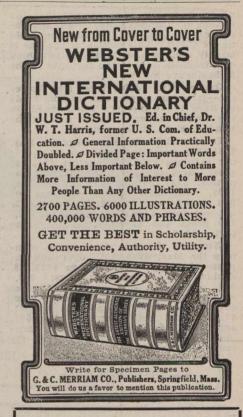
F. T. GRIFFIN, Land Commissioner, Winnipeg.

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A. A. HEARD, G.P.A., Albany, N.Y.

Montreal Street Railway Dump Car.

The Montreal St. Ry. Co. has recently added to its freight equipment a new type of dump car for handling stone. Several types of car were tried, with the result that all were found to be too slow in regard to unloading. The car that was required was one that would dump its load all to one side, free of the track, and do it quickly so as not to hold up passenger traffic. From these hold up passenger traffic. From these requirements the present car was developed with the result that one car was built by the Dominion Car and Foundry Co., in March, 1909. It was given a thorough test and was found to fulfil the requirements, and 24 more were built between July and Sept., 1909, and 25 more have been ordered from the Canadian Car & Foundry Co. On the care lest ordered a play device is added cars last ordered, a plow device is added to the rear truck which spreads the rock after the car has deposited it beside rock after the car has deposited it beside the track. This plow device is detachable and is folded in when the car is in running position. The car can be dumped and righted in one minute, in fact the car body rights itself as it is balanced on rockers instead of hinges. The rocker feature is a decided advantage over the old hinge design as it allows the car to settle easily to the dumping position and thus avoids all the

tage over the old hinge design as it allows the car to settle easily to the dumping position and thus avoids all the shocks that have always accompanied the old style of dumping car.

The car is built entirely of steel with the exception of the cab. The centre sills are composed of 12 in. 25 lbs. channels, braced with six 8x8 lbs. channel separators at rocker bearing point, and further tied together with a % rocker plate. The side is composed of 10x15 lbs. channel reaching from end sill to end sill secured with rolled connection angles. The end sills are also a 10 in. 15 lbs. channel faced with an oak beam ins. thick, and securely bolted to the web of the end sill channel. The body bolsters are composed of 5 in. x 11.6 lbs. Z bars with ¼ in. cover plates top and bottom and secured to side and centre sills with ¼ in. gusset plate.

The car is not symmetrical, as the

sills with ¼ in. gusset plate.

The car is not symmetrical, as the 10 in. side sill is on one side only. There are four channel diaphragms 5 ins. deep, reaching from the center sill to the side sill on the non-dumping side of the car; rivetted to these channels are the bearing plates that secure the operating shaft.

operating shaft.

The car body is composed of light angles and ¼ in. plates securely rivetted together and is divided into five separate compartments; each compartment being 5 ft. wide by 7 ft. 11 ins. long, thus allowing different classes of material to be carried at the same time.



Montreal Street Railway Dump Car, unloading.

The car body rests on cast steel rockers, one at each end and at each partition. The cast steel rockers have lugs that engage openings in the % in. rocker plate. These rocker castings allow the car to rock easily to the dumping side of the car without any undue shock, and the car body is so balanced that it can easily be righted again. The dumping mechanism is composed of two cast steel racks with pinions secured to the operating shaft; all easily controlled from the motorman's cab.

There are five doors of 3-16 in. plates

There are five doors of 3-16 in. plates reinforced with bars. They are hinged at the bottom and open downward so that when the car is dumped they form an extension and help to throw the load away from the track. The locking device for the doors is composed of a shaft 1½ in. round, extending the full length of car body; secured to this shaft are 10 malleable iron hooks, two to each are 10 malleable iron hooks, two to each door. The hooks lip over the top edge of doors, thus holding them securely in of doors, thus holding them securely in place. At each end of the door shaft there is a short lever which is connected to a toggle on the center sill by a connecting bar with turn buckle for adjusting. When the car body reaches a certain angle in dumping it operates the door locks automatically and releases door locks automatically and releases the doors. Buffers are provided for the doors to fall on. Wood buffers are also provided on the trucks.

The trucks are the Montreal St. Ry. pattern but any standard truck may be used, although a truck with a short pattern but any standard truck may be used, although a truck with a short wheel base is preferred. The car is built with motors on each axle, hand brakes only, with the usual electrical equipment in cab. Sanding box and fenders are also used.

Following are the general dimensions: Length over end sills, 33 ft.

Truck centres 21 ft. 3 ins.
Width of box 7 ft. 3 ins.
Width of box 25 ft.
Height of box 21½ ins.
Box spring draft gear.
Angle of dump, 35 deg.
Capacity 40,000 lbs.
Cubic contents, 20 cubic yards.
Weight 26,000 lbs. without motors.
The Quebec Railway Light, Heat & Power Co. had two similar cars built by the Canadian Car & Foundry Co. in July as a trial order.

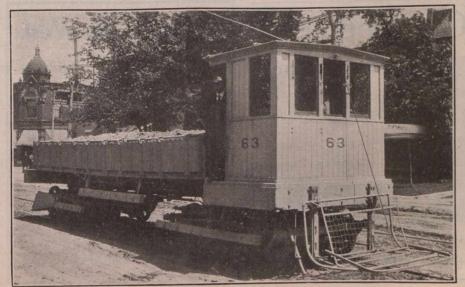
July as a trial order.

Montreal St. Ry. Mutual Benefit Association.

Following are extracts from the report for the year ended Apr. 30: A summary for the relief work done during the year shows that 705 members were disabled through sickness or injury; \$8,874.90 was paid for sickness and injury; \$1,614.85 for medicine, and \$289.50 for pensions; \$99.70 for withdrawals, and \$12,183.35 for death and burial insurance. The sixth annual picnic showed a profit of \$8,928.22. During the year, \$19,189.75 was invested, the total amount invested being \$67,915.25, the securities being deposited with the Royal Trust Co. The receipts include a special Christmas donation from the Montreal St. Ry., of \$3,000, making a total received from the company of \$15.476.53, which, added to the members' fees and dues of \$14,075.50, and the proceeds from the picnic, interest on investments, and bank deposits, amounting to \$13,864.88, makes a total revenue of \$43,416.91. The expenses for the year were \$30,898.73. leaving a surplus of \$12,518.18.

At the annual meeting, the following committee of management was elected: W. G. Ross, D. McDonald, A. Gaboury, A. S. Byrd, R. H. Hannaford, H. G. Taylor, P. Dubee and D. E. Plair, on behalf of the company, and S. Dupras, O. Besner, J. Thibault. S. Chartier, J. Millette, Jno. Hughes and J. Poirier, on behalf of the men.

The Hamilton St. Ry. has received to pay-as-you-enter cars, 43 ft. over odies, with longitudinal bodies, from the Ottawa Car Co., Ottawa.



Montreal Street Railway Dump Car, loaded.

DOMINION BRIDGE CO., LTD., MONTREAL, P.Q.

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TURNTABLES, ROOF TRUSSES
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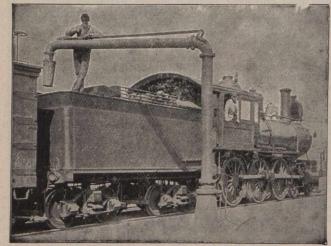
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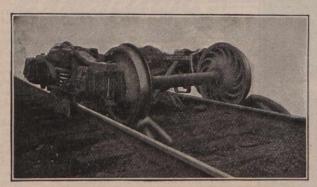
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MARINE DEPARTMENT.

Dominion Marine Association.

PRESIDENT, F. Plummer, Toronto; Counsel, F. King, Kingston, Ont.

Great Lakes and St. Lawrence River Rate Committee.

CHAIRMAN, E. E. Horsey, Kingston, Ont. SECRETARY, Jas. Morrison, Montreal.

International Water Lines Passenger Association.

Association.

PRESIDENT, W. M. Lowrie, New York.
SECRETARY, M. R. Nelson, New York.

The Shipping Federation of Canada.

PRESIDENT, A. A. Allan, Montreal; MANAGER, AND SECRETARY, T. Robb, 526 Board of Trade, Montreal.

Ship Masters' Association of Canada. Grand Master, Capt. J. H. McMaugh, Toronto, Ont.; Grand Secretary-Treasurer, Capt. H. O. Jackson, 376 Huron St., Toronto.

Stranding of the s. s. Ben Cruachan.

Judgment has been delivered in the matter of the stranding of the s.s. Ben Cruachan, near Port Nova island, N.S., May 31, while bound from Baltimore, May 31, while bound from Baltimore, Md., to Chatham, N.B., as follows:—The court finds that the Ben Cruachan was well found in all respects and was carefully navigated by the master up to noon on May 31; that from this time the soundings were too far apart to be of any practical value in determining the ship's position in the prevailing weather. The chart used was on too small a scale and did not show sufficient detail for The master and coasting purposes. The master and officers being entire strangers to this coast were evidently misled in the fog signal as given by Louisburg, and considered it was that of Scatterie island, but the master having a list of fog signals on board should have been forewarned by the fact that there was a similarity between the signals of these two places and should have taken more two places, and should have taken more soundings to determine his position with greater accuracy. The court considers the mate was somewhat careless in making the entries in the ship's log book, and also considers that the fog signals at Scatterie and Louisburg are too similar in character, considering the distance they are apart. Taking into consideration the care shown by the master in the navigation of his ship, we are of opinion that the cause of strand-Taking into ing was due to an error of judgment by the master and officers, and consider it necessary to caution the master, since he is an entire stranger to these ports, while navigating along the Nova Scotia coast, and the Eastern provinces, he should supply himself with a chart on a larger scale, and also full sailing directions. directions

The St Andrews Lock and Dam.

The lock and dam which have been constructed on the Red River, between Winnipeg and the outlet of the river into Lake Winnipeg, were formerly opened by the Minister of Public Works, July 14. The work was practically completed last fall, and the lock was opened for navigation at the commencement of the present season.

for navigation at the commencement of the present season.

The lock is similar in type to those on the Welland canal, and will accommodate a vessel 215 ft. long, 45 ft. wide, with a draught of 90 ft. The dam is 800 ft. long, and 25,000 cub. yds. of concrete was used in its construction. The main concrete piers are about 134 ft. centre to centre, carrying the steel superstructure, which is of the double deck type, the lower level being used in con-

nection with the movable curtain dams, with an electric travelling crane for their operation. While the upper level is used as a traffic bridge, to connect the two sides of the river. The top of the submerged dam forms a bearing for the castings sustaining the girders of the curtain frame. The main piers are 14 ft. wide by 55 ft. long at the top, and 14 by 76 ft. at the base. With an average height of 50 ft., the piers facing up stream, are projected 21 ft. at an angle of 45 deg., with a 7 ft. radius, dropping vertically to bed rock, as a protection against ice. The lock is equipped with gates 28 ft. long by 37 ft. high, at the upper end, and 28 ft. long by 23 ft. high at the lower end. The curtains of the movable dam consist of wooden laths 7 ft. 3% ins. long by 3 ins. connected with copper links. In the complete structure, there are 110 such curtains. These are operated by four electric cranes.

are 110 such curtains. These are operated by four electric cranes.

The dam has the effect of raising the water level at Winnipeg 2 ft., thus giving 9 ft. of navigable water there. The Minister of Public Works, stated some time ago, that exclusive of the sums spent on this work in earlier years, the improvement had cost \$1100,000

improvement had cost \$1,100,000. The Dominion Premier, in a speech at the formal opening, said that there was now a clear space of navigation for 300 miles; this, though a considerable achievement, was only the beginning, the Red River had been opened to navigation to Winnipeg, and it now remains to open the Saskatchewan River to Edmonton. Engineers are already surveying the Saskatchewan, and, he believed, that before many years had passed the river would be open to navigation. Tributes were paid to the contractors, Haney, Quinlan and Robertson, and to A. R. Dufresne, engineer in charge, for the ability shown in the carrying out of the work.

The s. s. Thomas J. Drummond.

This vessel, which has recently been added to the Algoma Central and Hudson Bay Ry. Co.'s fleet and named after the company's president, is of the single deck type, and of the following dimensions: length 248 ft. breadth 44 ft., depth moulded 26 ft. She is built to British Corporation Survey with scantlings, entitling' her to trade in any waters, and is specially designed for carrying rails and bulk cargo, her arrangements being such that these may be handled with the greatest possible facility. The hold space is divided into three compartments, and extra strength is introduced in the structure of the vessel where additional strains are likely to be experienced when engaged in her special trade. A cellular double bottom of extra depth over rulé requirements, and fore and after peak tanks, are arranged for carrying water ballast. Her deck machinery, in-

cluding winches. windlass, and capstan, is all arranged for the speedy and easy handling of the vessel. The steam steering gear works direct on to the rudder quadrant, the rudder being of the usual balanced lake type, and fitted with coupling to permit of easy removal. A large coal bunker is fitted on deck as well as bunkers alongside boilers, all arranged so that trimming can be practically dispensed with. Electric light is fitted throughout the vessel, including holds. Accommodation is provided in the forecastle forward for mates, wheelmen, watchmen, and deck hands; a suite of rooms with bathroom is arranged for owner, while the captain's accommodation, including bedroom, bathroom, office, and chart room, is arranged in texas house on top of forecastle. A wheel house is fitted on top of texas house, with telegraph for docking and telegraphs and whistle pulls to engine room. The engineers are accommodated aft, where also the dining saloon, pantry, galley, mess-room, and ice house are placed. The vessel is propelled by machinery of the triple expansion single screw type having cylinders 20½, 33 and 54 by 36 in. stroke, supplied with steam from two boilers 14 by 10½ ft., working at a pressure of 190 lbs. The main engines are controlled by steam and hydraulic starting and reversing gear, and have also steam turning gear; a special feed pump is fitted, also feed heater, there is an atmospheric self-tipping ash hoist, and the whole engine room equipment is thoroughly up-to-date.

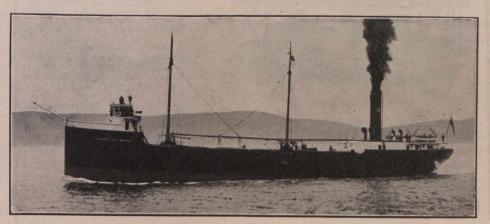
The vessel was built by Archd. Mc-Millan and Son, Ltd., at Dumbarton, Scotland, and is one of the most up-to-date of her type which has been constructed. On her trial trip she steamed at 12½ miles an hour over the measured mile at Skelmoille. During construction the owners were represented at Dumbarton by Capt. Jordan and Mr. Sylvestre.

St. John, N.B., Shipping Statistics.

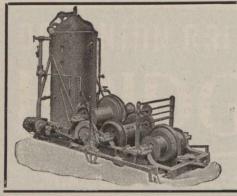
The exports from St. John, N.B., by transatlantic vessels, for the winter season, from Nov.. 1909, to May, 1910, amounted to \$24,030,007, classified as follows:—

TOHOWS.	
GENERAL STREET, STREET	Value.
Wheat, bush6,962,651	\$9,156,681
Barley, bush 240,912	40,100,001
Oats, bush 257,141	
Buckwheat, bush 58,317	
Hay tone	105 050
Hay, tons 8,523	125,272
Flour and meal, pkgs 988,407	3,075,585
Cheese, pkgs 77,353	761,876
Butter, pkgs 2,518	19,034
Lard, pkgs 121,009	1,026,423
Meats, pkgs 67,598	2,973,707
Apples, brls 65,992	
2111	209,089
	392,800
Horses, head	4,150
Lumber, stds 23,271	678,774
Other lumber, tons1,031,320	380,447
Manufactures, pkgs 444,951	2,847,331
Miscellaneous, pkgs 176,028	1,378,808
Fur and silver	1,000,000
	1,000,000

The Government returns for the fiscal year ended Mar. 31, show the exports as



Algoma Central Steamship Co.'s s.s Thomas J. Drummond.



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Dredges -Ditchers -Derricks Steam Shovels

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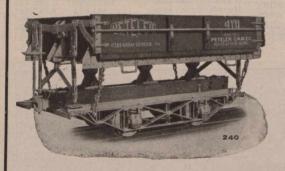
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Peteler Dump Cars

Sizes One to Seven Yards

Our 1910 Cars are further im-

Our 1910 Cars are further improved and are ideal for handling all kinds of material.

Simplicity, Strength and Staying Qualities have kept our cars in the front rank for over thirty years.

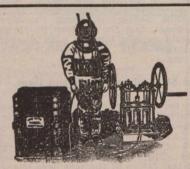
PETELER CHILLED WHEELS for all purposes are noted for their deep and uniform chill and will reduce your wheel troubles to a minimum.

We also build Logging Cars, Frogs, Switches, and Turntables; Cars for Mines, Stone Quarries, Brick Yards, and Industrial Cars. Carry stock of Light Rails and Fastenings.

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\$24,988,519, an increase of \$4,320,002 over those for 1908-09. The number of vessels, transatlantic only, arriving and departing was 114, an increase of six over the previous year, and an increase of 56 over 1898, since when the value of the shipments has increased nearly 600%. The registered tonnage of the vessels during the past season, was 504,-260, and for 1898, 102,316, so that, not only has there been an increase of nearly 100% in the number of vessels using the port, but the average registered tonnage is greater by about 150%.

Dominion Government Quarantine Steamboat.

The steamboat for quarantine service, to meet all incoming ocean liners at Grosse Isle, Que., for which the Dominion Government has recently given a contract will be 113 ft. 3 ins. long over all and 23 ft. beam, and will have lower, main, and hurricane decks. She will be of steel construction throughout and a steel deck house will be built on the main deck, in which will be located two hospitals for landing the sick, the doctor's staterooms, officer's mess room, etc. The captain's and first mate's quarters are to be arranged in the texas abaft the wheel house on the hurricane deck, and

accommodation has been made below the main deck for the rest of the officers. The hospitals, staterooms, etc., will be handsomely finished and the equipment throughout will be of the most up-to-date kind.

The boiler will be of the Scotch marine return tubular type, 13½ ft. diameter by 11 ft., built for a working pressure of 130 lbs. The propelling engine will be compound surface condensing with cylinders 18 and 36 ins. diameter by 24 ins. stroke indicating 400 h.p., and it is expected that the boat will have a speed of over 11 knots an hour.

The contract has been given to the Kingston Shipbuilding Co., Ltd.

Navigation from Winnipeg to the Rockies.

The Dominion Government is said to have decided on establishing a water route from Winnipeg to the Rocky Mountains within five years. In an interview at Winnipeg recently, Minister of Public Works Pugsley, said:—"The completion of the St. Andrews locks connects Winnipeg city with the north end of Lake Winnipeg, 300 miles of waterway. At about 250 miles north of Winnipeg the Saskatchewan River from the Rockies enters the lake at Grand Rapids. It is a big river at this point. The

project under consideration is to build locks at the rapids so as to enable the ascent of the Saskatchewan River. We believe that by an expenditure not greater than warranted by the importance of the undertaking, such as building locks at Grand Rapids, possibly two other locks on the Saskatchewan River, constructing a number of wing dams, and doing some dredging, it will be possible to make the river navigable for moderate-draught vessels. The result will be a system of navigation from 100 miles west of Edmonton, close to the foothills of the Rockies, right down to Winnipeg, 1,500 miles. The building of the locks will result in the development of between 80,000 and 100,000 horsepower at Grand Rapids, which would be of great importance either for transmission to Winnipeg or to operate the industries likely to be established at Grand Rapids. When the Hudson Bay Railway is completed it will be the most convenient point for the manufacture of lumber, pulp, paper and flour for shipment to the markets of the old world. Our department has now in the field five parties surveying the Saskatchewan River, determining the best mode and cost of the necessary improvements. We conducted the preliminary survey last year, and much valuable information was derived."

LIST OF STEAM VESSELS REGISTERED IN CANADA DURING JUNE, 1910.

										The state of the s
Name	No.	Where and When Built.	Engines, etc.	Length	Breadth	Depth	Gross	Reg. Tons	Port of Registry	Owners
Geo. H. Jones Half Moon J. A J. O'B. J. D Schofield Konomic. Kyac. Le Roy Brooks Lintonia Mina G Naturitch New Delta Oose River. Port Douglas Prince Ito Princetown Rosalind C Rosulile Sloth Trask	126,516 122,278 126,832 126,642 126,660 130,221 126,891 126,891 126,893 126,893 126,893 126,894 126,103 126,894 126,103 126,884 126,107 126,894 126,107 126,515 126,517 126,517	Vancouver, B.C., 1910. Soda Creek, B.C., 1910. Wilmington, Del., 1899. Winnipeg, Man., 1910. Auburn, N. Y., 1904. Richibucto, N.B., 1910. Port Dover, Ont., 1909. Tobermory, Ont., 1909. Owen Sound, Ont., 1910. Vancouver, B.C., 1910. Chatham, N.B., 1910. Port Robinson, Ont., 1910. Vancouver, B.C., 1910. Amherstburg, Ont., 1910. Lakefield, Ont., 1910. Horseshoe Bay, Que., 1910. """ Univille, Ont., 1910. Dunville, Ont., 1909. Vancouver, B.C., 1910. "" Sorel, Que., 1906. Hastings, Ont., 1910 Hamilton, Ont., 1910 Sorel, Que., 1906. Hastings, Ont., 1909 Summerville, N.S., 1910. Muskegon, Mich., 1907 Vancouver, B.C., 1910 Muskegon, Mich., 1907 Victoria, B.C., 1910 Vancouver, B.C., 1910 Muskegon, Mich., 1907 Vancouver, B.C., 1910 Vancouver, B.C., 1910	Paddle 27 "Screw 30 "Paddle 4 "Screw 1 " " " " " " " " " " " " " " " " " "	127.5 110.3 118.0 30.9 32.6 54.0 42.0 65.4 88.6 26.0 57.0 55.0 71.3 82.4 45.0 38.5 57.8 45.0 9.1 121.0 9.1 124.0 9.3 9.3 9.4 9.3 9.3 9.4 9.3 9.3 9.3 9.3 9.3 9.3 9.3 9.3 9.3 9.3	16.4 22.5 6.2 10.4 13.6 10.0 14.5 9.2 6.7 12.0 16.0 12.6 13.3 15.2 14.7 13.2 10.1 15.0 9.4 28.0 10.1 9.8	5.1 10.2 4.0 4.0 5.8 6.0 6.0 8.1 5.5 5.5 9.4 6.2 4.0 10.2 9.4 4.4 14.2 5.5 5.5 5.5 5.5 10.2 10.2 10.2 10.2 10.2 10.2 10.2 10.2	513 113 278 4 14 25 5 12 71 16 5 5 5 5 13 32 9 6 18 23 13 73 16 18 8 30 11 17 8 8 8 11 11 11 11 11 11 11 11 11 11 11	323 522 1755 3 12 177 8 48 48 11 12 22 20 42 40 41 9 9 321 13 9 321 14 12 14 12 13 14 14 14 14 15 16 16 16 16 16 16 16 16 16 16 16 16 16	Victoria, B.C. Port Stanley, Ont. Winnipeg Toronto Richibucto, 'N.B. Port Dover, Ont, Owen Sound, Ont. " Vancouver, B.C. " Chatham, N. B. St. Catharines, Ont. Vancouver, B.C. " Amherstburg, Ont. Ottawa Vancouver, B.C. St. Catharines, Ont. Vancouver, B.C. Toronto Ottawa Vancouver, B.C. Toronto Ottawa Peterboro, Ont. Ottawa Vancouver, B.C. Toronto Ottawa Peterboro, Ont. Vancouver, B.C.	M. Desbrisay, Vancouver, B.C. B.C. Express Co., Ashcroft, B.C. J. C. Duffield and C. S. Hyman, London, Ont. Hyland Navigation and Trading Co Winnipeg, R. W. Fawcett, Hamill's Pount, Muskoka, Ont. W. E. Forbes, Richibucto, N.B. H. W. Ansley, Port Dover, Ont. Geo. E. Young, M.O., Tobermory, Ont. D. Rumley, and S. Robinson, Owen Sound, Ont K. Walkem Vancouver, B.C. J. A. Fisher, Vancouver, B.C. J. O'Brien, Nelson, N.B. G. Ross, Port Robinson, Ont. E. Easthope, Vancouver, B.C. Packers' Steamship Co., Vancouver, B.C. J. S. McQueen, Amherstburg, Ont. C. F. Gray, Lakefield, Ont. Minister of Public Works, Ottawa. S. J. Castleman, Vancouver, B.C. G. W. Brewster, Ladner, B.C. C. Ross, Port Maitland, Ont. C. F. Pretty, Harrison River, B.C. W. J. Poupore, Montreal Que. R. J. Cromie, Vancouver, B.C. Montreal River Transportation Co., Toronto Minister of Marine, Ottawa. Randolph Macdonald Co., Toronto. C. E. Terfry, Summerville, N.S. J. Arbuthnot, Victoria, B.C. Queen Charlotte Whaling Co., Victoria, B.C. Attorney General tor British Columbia, Victoria, B.C.

(a) Formerly Surprise. (b) Formerly Ramona.

LIST OF SAILING VESSELS AND BARGES REGISTERED IN CANADA DURING JUNE, 1910.

Name	No.	Where and When Built	Rig	Length	Breadth	Depth	Reg. Tons	Port of Registry	Owners
A. L	126,848	Petite Riviere St. Francois, Oue. 1909	Schr.	71.5	21.0	5.4	48	Quebec	A. Lavoie, Petite Riviere St. Francois, Que.
Adana C Alice and Jennie	126,812	Tancook, N.S. 1910	"	45.0 60.2	11.2 19.2	7.0			B. Cleveland, Bayswater, N.S. T. C. Guthrie, Little River, N.S.
Arkona	126,815	Mahone Bay, N.S., 1910 Yarmouth, N.S., 1910	Sloop	97.8 35.5	27.6 11.7	10.9	144	Lunenburg, N.S	W. C. Smith, M.O., Lunenburg, N.S. W. A. Killam, M.O., Yarmouth, N.S.
Drill Boat No. 1 Drill Boat No. 2	126,725	Hastings, Ont., 1909	Scow	50.0	20.0	4.0			Randolph Macdonald Co., Toronto
Dorilda	126,847	Petite Riviere St. Francois, Que., 1910		82.3	24.5	7.3	MARIE	Quebec	M. P. Tremblay, Petite Riviere St. Francois, Que.
E. C. E. No. 14	126,887	Glasgow, Scotland, 1891 Vancouver, B.C., 1907	Ship. Scow	277.8 78.0	41.8 28.8	24.8	139	Vancouver, B.C	R. P. Rithet, Victoria, B.C. G. Coleman, Vancouver, B.C.
Grand Falls	126,661	Mahone Bay, N.S., 1910 Shelburne, N.S., 1910	Schr	109.0 113.0	26.0 26.3	11.2	113	Shelburne, N.S	H. W. Adams, M.O., Lunenburg, N.S. A. W. Dyett, St. Jacques. Nfld.
Itaska	126,813	Grand Etang, N.S., 1910 Lunenburg, N.S., 1910	***	40.0 106.4	11.4 26.2	5.5	100	Lunenburg, N.S	J. R. and D. R. Doucet, Grand Etang, N.S. R. Ritcey, M.O., Riverport, N.S.
Nora Sybil	126,475	Notre Dame Bay, Nfld., 1910. Owls Head, N.S., 1910	66	88.5	9.6	10.2	6	Halifax, N.S	J. C. Crosbie, St. John's, Nfld. M. Stevens, Owls Head, N.S.
Roy Penny.	\$5,408 \$126,572	House Harbor, Que., 1910 Sonora, N.S., 1910.		51.8	18 1	7.0			W. G. Leslie, Grindstone, Magdalen Islands, Que. D. Gillis, et al., Port Hood, N.S.



Department of Railways and Canals.

QUEBEC BRIDGE.

Tenders for Superstructure. Notice to Contractors.

S EALED TENDERS addressed to the undersigned and endorsed "Tender for Quebec Bridge Superstructure." will be received at this office until 12 o'clock noon, not later than September 1st, 1910, for the superstructure of a bridge across the St. Lawrence River near the City of Quebec.

tember 1st, 1910, for the superstructure of a bridge across the St. Lawrence River near the City of Quebec.

Plans and specifications may be seen and forms of Tender obtained on and after July 1st 1910 at the office of the Quebec Bridge Board of Engineers, Canadian Express Building, Montreal, and at the Department of Railways and Canals, Ottawa. Parties tendering will be required to accept the fair wages schedule prepared or to be prepared by the Department of Labour, which schedule will form part of the sontract.

Contractors are requested to bear in mind that tenders wil not be considered, unless made strictly in accordance with the printed forms, and in the case of firms, unless there are attached the actual signature, the nature of the occupation, and place of residence of each member of the firm. An accepted bank cheque for the sum of \$500,000.00 made payable to the order of the Minister of Railways and Canals of Canada must accompany each tender, which sum will be forfeited if the party tendering declines entering into contract for the work at the rates statea in the offer submitted and in accordance with the terms stated in the form of Contract accompanying the Specifications.

Cheques thus sent in will be returned to the respective contractors whose tenders are not accepted.

The lowest or any tender not necessarily accepted.

The lowest or any tender not necessarily accepted.

L. K. JONES, Secretary.

Department of Railways and Canals, Ottawa, 17th June, 1910.

Newspapers inserting this advertisement without authority from the Department will not be paid for it.

The name of the steam dredge Triton has been cha to Prince Ito. been changed by Order-in-Council

Press reports state that A. H. Treen has been appointed Agent for the Nor-thern Steamship Company at Victoria,

The Anglican mission ship, Columbia II., which was recently launched at New Westminster, was duly consecrated, July 7. She was announced to take her first trip to northern waters at the end of July.

Judging from past events, one would scarcely imagine that the position of a wreck commissioner was a bed of roses. However, the Montreal Gazette, recently in referring to the Cassandra-Advance enquiry, said, "As the matter is still sub rosa, it is impossible to make any comment thereon at pres-Perhaps it is just as well.

An order-in-council has been passed, amending the one of Apr. 1. respecting the exemption of steamboats holding certificates of inspection of Lloyds' Register, British Corporation, or Bureau Veritas, from the annual steamboat inspecting imposed by the Canada Shipping Act, by adding also, certificates of the Norwegian Veritas.

The Mackenzie Steamship Co.'s s.s. Rupert City, it is reported, has been taken out of the passenger trade, and is being remodelled, to accommodate her for the coal carrying trade, between Nanaimo, B.C., and Alaska, under char-ter to the Pacific Coast Steamship Cq. She was formerly known as Powhatan, and was built at Barrow-in-Furness, Eng., in 1886.

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The only material that will fill cracks in old paint or varnish, and keep them filled

SAVES TIME—SAVES BURNING OFF—SAVES MONEY

Used in conjunction with any reliable surfacer, gives perfect results. For Coaches, Engines and Tenders

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EUGENE F. PHILLIPS ELECTRICAL WORKS, Limited

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BARE AND INSULATED ELECTRIC WIRE Electric Light Line Wire Incandescent and Flexible Cords,

RAILWAY FEEDER AND TROLLEY WIRE

Americanite, Magnet, Office and Annunciator Wires, Cables for Aerial and Underground Use.

RAILWAY SPRINGS

Locomotive, Tender and Passsenger Car Springs of every description

Equalizing, Drawbar, Buffer and Spiral Springs of all kinds

Street Railway Springs

from the largest to the smallest

Manufactured by

B. J. COGHLIN CO., Limited, 432 St. PAUL St., MONTREAL, CAN

The Steamship C. A. Jaques.

A vessel bearing this name and which has been built for C. A. Jaques, of Montreal, has arrived in Canada and gone into the Great Lakes trade, running in the Merchants Mutual Line. Her dimensions are, length 249 ft., width 42% ft., depth 25 ft. She is built to Lloyds, highest class, 100 A.1. for trading on the Great Lakes and for coasting. She is arranged for package freight traffic, having 'tween decks with large cargo doors through vessel's sides and an installation of line shafting with separate A vessel bearing this name and which doors through vessel's sides and an installation of line shafting with separate engine for working the cargo. She is strongly built, her scantlings where necessary to meet the exigencies of her special trade being increased over rule requirements. Cellular double bottom and fore and after peaks are arranged for water ballast, and her hatches and deck fittings are arranged in accordance. deck fittings are arranged in accordance with the latest requirements for vessels of this type. She has a steam windlass forward, steam capstan aft, two steam winches on deck, and steam steering gear with engine geared direct on to the Accommodation for mates, wheelmen, watchman and seamen, with baths and lavatories, is arranged in baths and lavatories, is arranged in forecastle forward, while on top of same is a texas house, with bedroom, office, chart room and bath, etc., for captain. A wheelhouse is fitted on top of this house, with steering standard, engine and docking telegraphs, and whistle pulls. The engineers' accommodation, also rooms for firemen, oilers, etc., is arranged aft, where are also situated the dining-room, firemen's mess-room, galley, pantry and ice house. The accommodation is steam heated throughout, and a complete sanitary system is fitted. and a complete sanitary system is fitted. The life boats are of seamless steel, and The life boats are of seamless steel, and the vessel is completed in a thoroughly up-to-date manner. Triple expansion engines with cylinders 18, 30 and 48 x 36 in. stroke are fitted, and these are supplied with steam at a pressure of 185 lbs. from two boilers 12½ ft. diameter by 11 ft. long, fitted with forced draught. The auxiliary machinery is complete in every respect, and includes a large water ballast nump, independent

complete in every respect, and includes a large water ballast pump, independent feed and circulating pumps, feed heater, ash ejector, steam and hydraulic starting and reversing gear, etc.

On her trial trip on the measured course on the Clyde the vessel attained a speed of about 12 miles an hour in her loaded condition, and she sailed immediately thereafter for Canada. The maiden trip from the Clyde to Montreal was accomplished in the rapid time for this type of vessel, of 12 days 18 for this type of vessel, of 12 days 18 hours. The vessel was built by Archd. McMillan & Son, Ltd., at Dumbarton, Scotland. The owner was represented during the building, by J. H. Hall, of Ottowe

Notices to Mariners.

The Department of Marine has issued the following:

The Department of Marine has issued the following:

51. June 17, 136. Ontario, list of lights and fog signals, new edition. 137. Ontaro, Lake Ontaro, Bay of Quinte, Telegraph narrows, dredging, caution. 138. Ontario, Lake Erie, Pelee passage, southeast shoal, new lightship.

52. June 21. 139.—New Brunswick, Bay of Fundy, Old Proprietor gas and whistling buoy, light in operation. 140. New Brunswick, Chaleur bay. Petit Rocher, position of lighthouse. 141. Nova Scotia, south coast, off Charles point, Bull rock, bell buoy established. 142. Nova Scotia, Cape Breton island, east coast, Neil harbor, hand fog horn at light station. 143. Newfoundland, southeast coast. Cape Race characteristic of light.

53. June 22. 144. British Columbia, Can-

southeast coast. Cape Race Sand of light.

53. June 22. 144. British Columbia, Canadian list of lights and fog signals, new edition. 145. British Columbia, Trincomali channel, Portlock point, light improved. 146. British Columbia, strait of Georgia, Active Pass, Mayne island, Georgina point, light improved. 147. Alaska, Wrangell

strait, Turn point, shoal reported, caution.

54. June 24. 148. Ontario, Lake Ontario, Bay of Quinte, Telegraph narrows and Nigger narrows, low water, caution. 149. Ontario, Lake Ontario, Cobourg, fog alarm on east pier. 150. United States of America, St. Clair river, Russell island, middle light, new structure. 151. United States of America, Lake Huron, Detour passage, change in position of Watson reef gas buoy.

55. June 27. 152. Quebec, Gulf of St. Lawrence, May islets, lighthouse established. 153. Quebec, Saguenay river, Cape East, new lighthouse.

56. June 28. 154. Nova Scotia, west coast, Cape St. Mary, character of light. 155. Nova Scotia, south coast, Fisherman harbor approach, off Cape Mocodome, Bull rock, bell buoy established. 156. Prince Edward Island, north coast, off entrance to Cascumpecque harbor, bell buoy established.

57. June 29. 157. Quebec, Gulf of St. Lawrence, Moisie river, range lights established. 158. Quebec, River St. Lawrence, Godboat, range lights established.

58. June 30. 159. Quebec, Ottawa river, Grenville, lighted buoy established. 160. Ontario, list of buoys, beacons and daymarks on Lake Huron and connecting waters, first edition. 161. Ontario, Sault Ste. Marie, dredging, buoy placed.

59. June 30. 162. New Brunswick, east coast, Miramichi bay, Grandoon flats, dredging. 164. New Brunswick, Miramichi river, dredging. 164. New Brunswick, Miramichi river, dredging. 164. New Brunswick, Chaleur bay, Bathurst, dredging, hydrographic notes. 168. New Brunswick, Restigouche river, Dalhousie, dredging, hydrographic notes. 168. New Brunswick, Restigouche river, Campbellton, dredging, hydrographic notes. 60. July 7.—169. Ontario, Lake Superior, lighthouse established on island west of Sha-

river. Campbellton, dredging, hydrographic notes.

60. July 7.—169. Ontario, Lake Superior, lighthouse established on island west of Shaganash island.

61. July 8.—170. Nova Scotia, Bay of Fundy, Port Lorne, upper light improved, lower light discontinued.

171. Prince Edward Island, south coast. Charlottetown, light established on Marine Department's wharf.

172. New Brunswick, east coast. Miramichi bay, Hay island, back range light improved.

62. July 9.—173. British Columbia, Burrard inlet, Second narrows, beacons established.

174. United States of America, Washington, Strait of Georgia, Roberts point, light established.

175. Alaska, Revillagigedo channel, Hog rocks light, characteristic and intensity changed.

63. July 12.—176. Quebec, River St. Lawrence, Lark reef, gas buoy established.

177. Quebec, River St. Lawrence, Saguenay river entrance, Pointe Noire, hand fog horn at light station.

178. Quebec, River River St. Lawrence, ship channel between Quebec and Montreal, below Cap Charles, Grande Point shoal, dredging, buoy to be moved westward.

64. July 13.—179. Quebec, Gulf of St. Lawrence, rock southeastward of Stevenson island, rocks in Aylmer sound.

180. Newfoundland, east coast, Notre Dame bay, Great

Dunier island, light discontinued. 181. Newfoundland, east coast, Peckford island, lighthouse established. 182. Newfoundland, east coast, Trinity bay, entrance to Smith sound. Ragged island, lighthouse established. 183. Labrador, Battle Harbor approach, Double island light, change in color.
65. July 16.—184. New Brunswick, east coast, Shippigan gully, change in position of back range light on wharf. 186. Quebec, Gulf of St. Lawrence, Moisie river, range lights not in operation.
66. July 18.—187. Quebec, River St. Lawrence, ship channel between Quebec and Montreal, Ste. Croix bar, gas buoy established.

lished.

67. July 20.—188. British Columbia, Vancouver island, east coast, Sidney channel. Sidney, position of buoys, hydrographic notes. 189. British Columbia, Kootenay lake, west arm, Procter, change in light, range lights established.

68. July 21.—190. Quebec, River St. Lawrence, chart of the approaches to Saguenay river issued. 191. Quebec, River St. Lawrence, ship channel between Quebec and Montreal, Cap a la Roche, gas buoy established.

Mariners and the Criminal Code.

"The Attorney General for Ontario desires to call the attention of all masters of vessels, and all vessel men generally, to the fact that if they show negligence in the management of their vessels, they may be prosecuted under sec. 284 of the Criminal Code, which reads as follows: Every one is guilty of an indictable offence and is liable to two years imprisonment, who, by any unlawful act, or by doing negligently, or omitting to do, any act, which it is his duty to do, causes grievous bodily harm to any other person."

It is also stated in the circular that a conviction may be obtained under this section, even though the negligence charged has not been the subject of an investigation by the Department of Mar-

Vessels Removed from the Register.-The following vessels were removed from the register during June for the reasons assigned: Steam—Sovereign, Peterboro, Ont., 37 tons, broken up; Sailing—Blomidon, Windsor, N.S., 271 tons, stranded; Calabria, Windsor, N.S., 451 tons, transferred to Newfoundland; Empress, Charlottetown, P.E.I., 26 tons, wrocked; I.D. Everett Windsor, N.S. wrecked; J. D. Everett, Windsor, N.S., 1,957 tons, sold to foreigners; Osprey, Shelburne, N.S., 69 tons, transferred to Barbadoes; Valkyrie, Yarmouth, N.S., 11 tons, broken up.

Lake Grain Shipments

The following statement, prepared by F. E. Gibbs, Grain Inspector, Fort William, Ont., shows the bushels of grain shipped from the various elevators in Fort William and Port Arthur, including vessels loaded for winter storage, from the opening of navigation, Apr. 13, to June 30, inclusive, with the ports of destination. The two figures shown in each column after the period represent lbs.

AR SHE IL SEED AND SHE	WHEAT	OATS	BARLEY	FLAX
ANADIAN PORTS	0.50.000	The same of the sa		
Collingwood	75,900.00		The second second	
Depot Harbor	624,138.00	60,243.22		
Goderich	1,196,946.00	686,228.12	103,075.34	111,829.14
Kingston	2,664,163.00	2,414,569.13	152,236.14	35,228.47
Montreal	1,838,199.20	2,203,350.02	223,734.13	57,170.41
Meaford	156,000.00	88,000.00	220,101.10	01,110.41
Owea Sound	518,181.30	812,286.14		
Prescott	***************************************	70,000,000		
Port Colborne	611,555.20	170,147.00		
Point Edward	355,243.50	97,897.22	10,000.00	
Port Stanley	20,000.00	10,252,00		
Tim.	2,177,929,40	325,500,00		
Tiffin	72,000.00	02.,000.00		
walkerville	72,000.00			
Totals	10,310,256.40	6,938,474.17	489,046.13	204,228.46
22000	20,020,200.20	0,000,11111	400,040.10	204,220.40
OREIGN PORTS	1015 005 00	150 501 11		The same of
Buffalo	4,245,805.00	459,764.11	102,965.06	691,317.28
Totals	14,556,061.40	7,398,238.28	592,011.19	895,546.18
				000,010120
Same period, 1909	10,947,848.10	3,680,397.13	444,410.36	709,519.38

Of the total amounts shipped, the following quantities were taken in foreign vessels; Wheat, 3,165,794.10; oats, 154,124.24; barley, 39,999.44; flax, 386,844.09

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ALEX. L. GARTSHORE, Treasurer.

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Omaha, St. Paul and Minneapolis, Memphis, Tenn., New Orleans, San Antonio,
Texas and all California.

NEW ORLEANS ROUTE TO THE
PACIFIC COAST.
HOMESEEKERS' EXCURSIONS

Every first and third Tuesday in every month.

Look the Illinois Central map over and consult

G. B. WYLLIE, Canadian Pass'g'r Agent. 220 Ellicott Square, Buffalo, N.Y.

Or F. S. Bishop, G.E.P.A., 333 Broadway, New York City.

IMPERIAL BANK OF CANADA

 Capital Authorized
 ...\$10,000,000.00

 Capital Subbscribed
 5,575,000.00

 Capital Paid up
 5,330,000.00

 Reserve Fund
 5,330,000.00

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AGENTS—London, Eng., Lloyds Bank Limited; New York, Bank of the Manhattan Co.
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Branches throughout the Dominion of
Canada.
SAVINGS DEPARTMENT—Interest allowed on
deposits from date of deposit.

GUMP CAR REPLACER

A replacer which embodies new features.

W. K. KENLY COMPANY

First National Bank Bldg. CHICAGO, ILL-

Atlantic and Pacific Ocean Marine.

Lieut. P. C. W. Howe, R.N., has been appointed to take charge of the Canadian Navy dockyards branch, by special arrangement with the British naval authorities.

The Canada Line's s.s. Prinz Oskar, which was recently damaged by grounding in the St. Lawrence, reached Quebec, July 8, under her own steam, and was drydocked for inspection.

An attempt is being made to float the s.s. Heimdal which ran ashore recently, on Sable island. Some difficulty is anticipated, as it is said no vessel has ever been refloated after going ashore there.

The Osaka Shosen Kaisha, operating a line of freight vessels, with third class accommodation, between the Orient and Puget Sound ports, has announced that it will make regular calls at Victoria, B.C.

Scott Griffin, heretofore Manager Canadian Northern Express and Telegraph Cos., Toronto, has been appointed Manager Canadian Northern Steamships, Ltd., with office at Bond Court House, Walbrook St., London, E.C., Eng.

The C.P.R. s.s. Empress of Ireland, in arriving at Rimouski, Que., July 7, created a new mail record between Liverpool, Eng., and Montreal, the time between the two latter points being a little over six days.

The Allan Line s.s. Grampian, which was recently damaged by striking some hidden obstruction near Cap a la Roche, has been examined and the necessary repairs completed in Great Britain. She was again placed in service July 23, the White Star-Dominion Line's s.s. Southwark having been chartered to take her place while she was in dock.

An order-in-council has been passed directing that passenger certificates is sued to passenger steamers by the New Zealand authorities be accepted in Canada, as of the same force and to the same extent, as if they had been issued by the British Board of Trade, such certificates having been given such privileges in Great Britain in 1886, the British certificates having been permitted in Canada since 1904.

The Imperial Merchant Service Guild is conferring with the British Board of Trade, regarding the hardship imposed on captains and officers of merchant vessels, who are frequently compelled to give up their positions on account of being detained. in connection with enquiries into casualties, on the ground that their evidence may be material. It is stated that a scheme is being propounded, whereby such officers may insure against loss due to any such detention.

The Canadian New Zealand Line's s.s Aeota, on her first trip from Montreal to New Zealand. June 29, ran aground at Martin River, about 250 miles below Quebec, and was released, with some difficulty, by the C.P.R. tug Cruiser and the Sincennes-Macnaughton Line's tug Sin-Mac, after which she was taken to Quebec, where her cargo and coal was removed, prior to examination. She is reported to have sustained considerable damage. Her place has been taken by the s.s. Wakanui.

Montreal press reports of July 11, stated that the White Star-Dominion Line, was about to acquire a controlling interest in 12 additional steamships, aggregating 51,361 tons, for the Australian and New Zealand service, and that arrangements were being made with the Canadian Northern Ry., and Grand Trunk Pacific Ry., for the operation of their railways in connection with the service. W. Mackenzie, President, is re-

ported to have stated, that so far as the Canadian Northern Ry. was concerned, there was no truth in the rumor.

Maritime Provinces and Newfoundland.

The Newfoundland Governor-in-Council has approved the pilotage rates for the port of Botwood.

An enquiry into the cause of the collision between the Government s.s. Minto and the s.s Rosalind, resulted in finding that the captain of the s.s. Minto was to blame, and he was cautioned for running too close to the Rosalind's propellor.

The s.s. Evangeline, which has been lying idle at Hantsport, N.S., for over a year, has been sold to W. McFatridge, Halifax, for use as a tender in the harbor. She was built at Windsor, N.S., in 1882, her dimensions being, length 81 ft. 2 ins., breadth 16 ft. 8 ins., depth 7 ft. 5 ins.; tonnage. 69 gross, 28 register, and she is equipped with engine of 50 n.h.p., driving a screw.

The Newcastle Steamboat Co., Ltd., has been incorporated under the New Brunswick Companies Act, with a capital of \$20,000, and office at Newcastle, to build, purchase or otherwise acquire, and operate steam and other vessels, and to carry on a general carrying business on the Miramichi River and its branches. The provisional directors are, P. Henessy, D. Morrison, J. Fergusson, G. Stables, and E. A. McCurdy, Newcastle.

Following are the vessels, with captains and chief engineers, of the Black Diamond Steamship Co., operated by the Dominion Coal Co., Glace Bay, N.S.:—

- orining court con, drace bus, - inci-
Bonavista D. C. Fraser D. Cameron.
BorgestadJ. HaraldsenO. Evertsen.
Cabot Kemp S. A. Stevenson.
Cacouna K. Marsters R. Patterson.
Cape Breton A. F. Macdonald . L. A. Stevenson.
Chr. KnudsenJ. OlsenB. Boeson.
CobanJ. Scott.
Dominion W. H. NorcottA. S. Mills.
Fornebo Hansen A. Hanisch.
Fritzoe E. Quale O. Fuglestad.
Kingstown T. Foley W. D. B. Yates.
Kronprins OlavP. A. Nilsen K. Kristensen.
Louisburg Holmes C. D. Cooke.
Morien
Ocean G. Olsen H. C. Antonsen.
Reidar
RosalindJ. V. Reader.
StigstadJ. KjerlandJ. Engebretsen.

Province of Ouebec Marine.

The Montreal Harbor Commissioners received tenders, July 27, for the supply of timber and railway ties.

G. Tanguay has been appointed a member of the Quebec Harbor Commission, in place of D. Arcand, resigned.

Capt. Bernier sailed from Quebec, July 3, on the Government s.s. Arctic, with sealed orders, for a cruise in Arctic waters.

The Department of Public Works has awarded the contract for the construction of a deep water wharf at Levis, as described in our last issue, to H. Dussault of Levis.

The Quebec Harbor Commission announces that it has come to an arrangement, which enables the C.P.R. to remove the discriminating freight rates existing on goods on their Empress steamships, consigned to Quebec, as compared with Montreal.

The s.s. King Edward, which stranged at Anticosti Island last fall, and was eventually salved after being abandoned by the owners, has been thoroughly overhauled and repaired at Quebec. It has not been decided as to what is to be done with her.

The Montreal Harbor revenue for June was \$58.871, against \$51,329 for June, 1909. There was considerable increase in the local traffic. The total revenue from the opening of navigation was \$112,840, against \$88,095 for the same period 1909.

The Richelieu and Ontario Navigation Co.'s steamboat Three Rivers has been practically rebuilt, with the exception of her hull, and she will be utilized in the excursion business. The superstructure was removed down to the main deck, and renewed in more modern style.

The permanent board of conciliation, which has been appointed to deal with any complaints of the longshoremen against their employers at Montreal, considered a number of such, July 7, and settled one or two points, which were not considered sufficiently clear in the recent award of the board which deam with the dispute in the early part of the year.

The Canadian General Development Co.'s steam tug Sogenada, arrived in

SAULT STE. MARIE CANALS TRAFFIC.

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

Articles.	Canadian Canal	U. S. CANAL	TOTAL
Copper. Eastbound Net tons Grain "Bushels Building stone "Net tons	4,364 2,228,898	13,044 2,538,672 500	17,408 4,767,570 500
Flour. "Barrels Iron ore "Net tons	272,818 4,771,189	560,621 2,347,969 1,985	833,439 7,119,158
Pig iron. " M. ft. B.M. Lumber " Net tons Silver ore. " Net tons	2,056	84,336	1,985 86,392
Wheat "Bushels General merchandise "Net tons Passengers "Number	2,954,644 7,979 1,655	2,323,963 9,499 1,990	5,278,607 17,478 3,645
Coal, hard Westbound Net tons	32,420 552,447	143,208 1,218,358	175,628 1,770,805
flour "Bushels Grain" "Bushels Manufactured iron "Net tons	21,513	2000 50,050	2,000 71,563
ron ore "Barrels alt "Net tons cassengers "Number	17,411 72,113 3,024	99,781 99,730 1,504	117,192 171,843 4,528
/essel passagesNumber Registered tonnageNet	1,108 3,530,586	1,981 4,403,728	3,089 7,934,314
reight—EastboundNet tons "—Westbound	4,943,709 681,066	2,688,741 1,526,356	7,632,450 2,207,422
Potal freight	5,624,775	4,215,097	9,839,872

Montreal, July 8, from Great Britain. She is said to be the smallest steam vessel which has come to Canada across the Atlantic under her own steam. The voyage, which occupied about six weeks, was made by way of the Azores. The

vessel is about 65 ft. long, with bunker

capacity for 30 tons of coal.

A. Vickers, of Vickers, Son & Maxim of England, was in Montreal recently, in connection with the construction of a dry dock and ship repairing plant there.

A site of about 30 acres is said to have been selected, situated about four miles been selected, situated about four miles east of the city, for a floating dry dock. It is stated that work will be commenced on what is estimated to be a \$5,000,000 plant, this fall, and that the whole will include dry dock, ship building and repairing plant, and the manufacture of car wheels facture of car wheels.

The Dominion Government steamboat Montmagny, which has recently been completed at the Sorel yards, is built of steel throughout, and is of the flush deck type with two pole masts. Her dimen-sions are: Length over all, 222 ft.; beam, 34 ft. 8 ins.; draught, 15 ft., with 2,064 tons displacement. She has three decks, with all up to date accommodation and equipment, including a Marconi wireless telegraph installation. The mawireless telegraph installation. chinery consists of twin screw triple expansion engines with cylinders 15, 24 and 39 ins. diar., by 24 ins. stroke, supplied with steam by two marine return tube boilers, 14 ft. diar., by 10 ft. long, at a pressure of 170 lbs.

In the litigation going on between the Quebec and Levis Ferry Co., and the Levis Ferry, Ltd., the Superior Court re-cently gave judgment to the effect that the first named had not the right of ferrying passengers between Quebec and Levis, and ordered it to cease carrying on such business. This order not being complied with, the Levis Ferry, Ltd., applied, July 7, in chambers, for an order to restrain the Q. & L. F. Co. from contents of the con ducting a ferry service, and asking that the company be fined, and the manager committed for contempt of court in not carrying out the previous order. The Q. carrying out the previous order. The Q. & L. F. Co. has issued a writ against A. Bernier, President Levis Ferry Ltd., asking that he be condemned for not carrying out the contract, as to the ferry service, and has also written to the Quebec Ferry Committee, offering to take over the contract and continue the service. The hearings of the latter actions have been deferred, pending the decision of the Superior Court in the action and ap-

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Ontario and the Great Lakes.

The contract for the widening of the Welland Canal at Welland has been let to J. W. Russell. Toronto.

The name of the steamboat Salaberry, No. 111665, registered at Kingston, has been changed by order in council to Quinte Queen.

The Inland Lines steamboat Glenellah, which ran aground at Presqu'ile, early in July, was released July 7, without damage.

Hamilton press reports state that the Hamilton Ferry Co. will purchase a large ferry steamboat for operation between Hamilton and Oaklands.

An order in council has been passed approving regulations for the governance of a ferry across the St. Clair River, between Sarnia and Port Huron.

The Western Steamship Co.'s steamboat J. A. McKee ran aground at Grecian shoal, near Colchester, July 12, and was subsequently released without apparent damage.

The Dominion Government is reported to have decided to erect a lighthouse on the shoal lying a little to the south of Chimney island. in the St. Lawrence River.

In speaking at Morden, Man., recently, Minister of Railways Graham said that a new Welland canal would probably be built instead of enlarging the present one.

The Chicago and St. Lawrence Steamboat Co.'s steamboat G. R. Crowe, which ran on a shoal in Lake Erie, near Amberstburg, July 19, was released without damage, July 20.

The Niagara, St. Catharines and Toronto Navigation Co.'s steamboat Lakeside, which has been thoroughly overhauled and repaired, was placed in service for the first time this season. July

The ferry steamboat Fortune, which has been operated for some time between Sault Ste. Marie, Mich., and Sault Ste. Marie, Ont., will, it is reported, be rebuilt and strengthened for ice breaking purposes.

The Montreal Transportation Co.'s steamboat Bothnia, which was beached at Lily Bay, near Brockville, July 18, was, after being lightered, temporarily repaired, and proceeded to Montreal under her own steam, July 20.

The ratepayers of Owen Sound, will vote, during August, on the granting of a bonus of \$50,000 to a British syndicate, for the construction of a dry dock, ship building and repairing plant there, at a cost of \$1,000,000.

The Toronto Ferry Co.'s steamboat Trillium, a description of which was given in our last issue, was placed in service July 1. The vessel, which was built by Polson Iron Works, Toronto, was on'y launched June 18.

The Department of Marine has issued a list of buoys, beacons and day marks on Lake Huron and its connecting waters, corrected to June 15. It has been compiled by Lt. Col. W. P. Anderson, Chief Engineer of the Department, and covers the aids to navigation on the Canadian shore of the lake, the Georgian Bay, North Channel, and River St. Mary, below the falls.

The U.S. Lake Survey reports the levels of the Great Lakes for June, in feet above tidewater, as follows:—Superior, 601.86; Michigan and Huron, 550.56; Erie, 572.68; Ontario, 246.46. Compared with the average levels for the past 10 years, Superior was 0.72 ft. below; Michigan and Huron, 0.52 ft. below; Erie, 0.16 below, and Ontario, 0.32 ft. below.

Sir John Murray, who was one of the

members of the Challenger expedition, which was organized in 1872, to examine the physical and biological condition of the great ocean beds, was in Ottawa recently, when, it is stated, that he made representations to the Government, with a view to the undertaking of similar work on the Great Lakes.

The construction of the Western Dry Dock and Shipbuilding Co.'s plant at Port Arthur, is being rushed, and the President is reported to have said, July 5, that the keel of the first vessel to be built by the company, would be laid in September. He also announced that tenders would shortly be called for, for the construction of the north end breakwater, plans for which were with the Public Works Department.

The traffic through the Canadian canals, from the opening of navigation to May 31, is reported to have been considerably heavier than for the similar period last year: the total being 8,276,270 tons, against 2,552,560 for May 1909. The increases are, Sault Ste. Marie, 5,02,110; Welland. 69,617; St. Lawrence, 79,105; Chambly, 32,611; Ottawa, 17,644; Murray, 15,403; Rideau, 7,408. St. Peters canal is the only one showing a decrease

Manitoba, Saskatchewan and Alberta.

In our July issue, in referring to the appointment of H. J. Truscott as Contracting Agent Inland Lines, Ltd., at Winnipeg, we stated, in parentheses, "which was taken over by the Inland Navigation Co." This should have read, "which has taken over the Inland Navigation Co."

In an interview at Winnipeg, July 14, the Minister of Public Works, promised a deputation representing the city parks board, that engineers would be engaged at once to conduct a survey of the Assiniboine River, as far as the park, and to prepare an estimate for the clearing of the bed, so as to admit of navigation to that point by small craft. He also stated that the Department might favorably consider the granting of assistance to the city for the construction of a central wharf, in connection with the parks, if a site were agreed upon.

Two parties of Government engineers started from Edmonton, recently, on a survey of the Saskatchewan River to Winnipeg. Each party will cover about 200 miles, carrying a line of levels along the banks, and taking water levels. Two parties will also work along

the river from Prince Albert, meeting L. R. Voligny, in charge of another party half way between Prince Albert and Edmonton. It is expected to complete the survey between Winnipeg and Edmonton before the winter sets in, and if no serious obstacles are encountered, the scheme of making the waterway navigable between these two points will be pushed forward with all possible speed.

B.C. and Pacific Coast Marine.

The Grand Trunk Pacific Coast Steamship Co.'s s.s. Prince George arrived at Victoria, July 12, from Great Britain, having taken 66 days on the voyage. She was placed on her route July 22.

The C.P.R. s.s. Princess Adelaide was launched at Glasgow, Scotland, July 7. She is intended for the Vancouver-Seattle service, and has capacity for 240 first class and 960 second class passengers.

Press reports state that the Dominion Department of Marine has decided to establish a marine depot at Prince Rupert for vessel repairs and for the light and buoy service. The initial cost is stated as \$100.000.

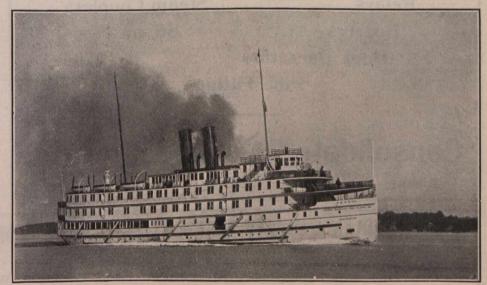
Arrangements are reported to have been made for the carrying of mails by the G.T.P. Steamship Co.'s steamships Prince Rupert and Prince George, in addition to the mail service by the C.P.R. Pacific coast steamships.

The Gulf Steamship and Trading Co., has communicated with the New Westminster board of trade, offering to put on a semi-weekly service with Victoria, in response to the board's efforts to improve the freight service between the two cities.

Press reports from Victoria, state that A. H. Treen, who has had a long service with the G.T.R., C.P.R. and the Union Steamship Co., has been appointed agent for the Northern Steamship Co. there.

The Victoria Shipping Co., Ltd., has been incorporated under the B.C. Companies Act, with a capital of \$150,000, to own, operate and trade with steam and other vessels of all descriptions, and to carry on the business of shipowner in all its branches.

The G.T.P.R. has applied for a subsidy for a floating dock at Prince (Rupert, which will be constructed at a cost of \$1,500,000. The dock, plans for which have been filed with the Depart-



The Richelieu and Ontario Navigation Co.'s steamboat Rochester, which runs between Youngstown and Ogdensburg, N.Y., from photo by W. I. Serrell.

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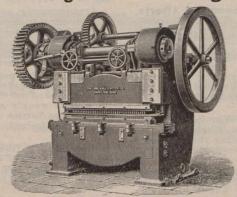
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ment of Public Works, will have a capacity of 20,000 tons.

The Dominion Government The Dominion Government has renewed the subsidy to the Pacific Coast Steamship Co.. for a service between Victoria and San Francisco, Cal., for three years, expiring Mar. 31, 1913; and has also renewed the subsidies to the C.P.R. for services to Northern British Columbia, Skagway and other coast

C. B. Foster, Assistant General Passenger Agent C.P.R.. Vancouver, is reported to have stated. July 4, that the two steamships, which are under construction in Scotland for the Pacific Coast steamship service, and which are to be a more of Princess May and Princess Adenamed Princess May and Princess Adelaide, will be placed on their routes in the fall, and that they will replace the steamships Charmer and City of Nana-imo, which will be transferred to other

routes.
The Coast Steamship Co.'s s.s. British The Coast Steamship Co.'s s.s. British Columbia, which recently arrived at Victoria, from Glasgow, Scotland, is being operated between Vancouver, Prince Rupert, Stewart and way ports. Her dimensions are. length, between perpendiculars, 170 ft.; breadth 27.1 ft.; depth of hold 10.5 ft.; depth, molded, 12.9 ft.; cargo capacity 29,736 ft., (40 cu. ft. to one ton); and she is equipped with triple expansion engines, with cylinders 14, 22½ and 37 ins. diar., by 27 ins. stroke supplied with steam at a pressure of 160 lbs.

The s.s. Cheslakee, built for the Union Steamship Co. of British Columbia, at Belfast, Ireland, on her recent test runs made 12-15 knots an hour. Her dimensions are, length, 132 ft.; breadth, 28 ft.; depth, molded, 17¾ ft. She is intended chiefly for the passenger traffic, and she has been equipped with

all the most modern appliances. The machinery consists of triple expansion engines, with cylinders 13½, 22 and 36 ins. diar., by 20 ins. stroke, supplied with steam by a multitubular Scotch boller, at a pressure of 185 lbs.

The Grand Trunk Pacific Coast Steamship Co., the incorporation of which we announced in our last issue, will take over and operate the steamships Prince over and operate the steamsmps runce Rupert and Prince George, now running between Prince Rupert, Stewart, Van-couver, Victoria and Seattle; and the Prince Albert (formerly Bruno), run-ning between Prince Rupert and Queen Charlotte islands. The officers of the company are, President, C. M. Hays, Montreal; Vice President, E. J. Cham-berlin, Winnipeg; Manager, C. H. Nic-holson, Vancouver; Secretary, H. Phillips, Montreal; Treasurer, F. Scott, Montreal; Auditor, W. H. Ardley, Montreal.

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Montreal Rolling Mills Co.....Montreal.

Nova Scotia S. & C. Co., New Glasgow, N.S.

Pittsburg Forge & Iron Co., Pittsburg, Pa.

Toronto Bolt and Forging Co...Toronto.

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

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Montreal Rolling

Toronto Bolt and Forging Co....Toronto.

Brake Beams L. DrewryWinnipeg. Toronto Bolt and Forging Co....Toronto.
Brake Beams
Canadian Car & Foundry Co...Montreal.
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Brake Shoes
Am. Brake Shoe & F'dry Co., Mahwah, N.J.
Canada Iron Corporation, Ltd. Montreal.
Brake Shoes, Locomotive Driver
Am. Brake Shoe & F'dry Co., Mahwah, N.J.
Canada Iron Corporation, Ltd. Montreal.
Brass and Copper Cloth
The B. Greening Wire Co., Hamilton, Ont.
Brasses, Car
T. McAvity & Sons St. John, N.B.
Bridge Numbers
Acton Burrows, Limited Toronto.
Bridges Alloys
American Vanadium Co...Pittsburg, Pa.
Angle Bars
Hamilton Steel & Iron Co..Hamilton, Ont.
Montreal Rolling Mills Co.....Montreal.
Nova Scotia S. & C. Co., New Glasgow, N.S.
Anti Rail Creepers
The Holden Co., Ltd.....Montreal.
Automobiles
Preston Car & Coach Co...Preston, Ont.
Axes Allovs James Smart Mfg. Co.... Brockville, Ont. Axles
Canadian Car & Foundry Co...Montreal.
Hamilton S. & I. Co., Ltd., Hamilton, Ont.
James Hutton & Co...Montreal.
Nova Scotia S. & C. Co., New Glasgow, N.S.
Pittsburg Forge & Iron Co., Pittsburg, Fa.
Jas. W. Pyke & Co...Montreal.
Babbit Metal
Tallman Brass & Metal Co., Hamilton, Ont. Bridges
Canadian Bridge Co....Walkerville, Ont.
Dominion Bridge Co.....Montreal. Beacons
International Marine Signal Co...Ottawa. Bearings, Side Canadian Car & Foundry Co....Montreal. Chicago Railway Equipment Co..Chicago. Blankets and Bedding
The Hudson's Bay Co. Boilers
Babcock & Wilcox, Ltd......Montreal.
Polson Iron Works, Ltd......Toronto.
Robb Engineering Co., Ltd..Amherst, N.S. Boilers, Portable
Babcock & Wilcox, Ltd......Montreal.
Polson Iron Works, Ltd......Toronto.
Robb Engineering Co., Ltd..Amherst, N.S.

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Montreal Rolling Mills Co.... Montreal. Pittsburg Forge & Iron Co., Pittsburg, Pa. Toronto Bolt and Forging Co... Toronto. Bolts, Carriage and Machine Toronto Bolt and Forging Co... Toronto. Cars, Logging
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NOTICE TO SHAREHOLDERS.

The Annual General Meeting of the Shareholders of this Company will be held on Wednesday, 10th day of August next, at the Head Office of the Company, in Kingston, at eleven o'clock a.m., for the purpose of electing Directors and transacting of other business.

next, at the Head Office of the Company, in Kingston, at eleven o'clock a.m., for the purpose of electing Directors and transacting of other business.

The Stock Transfer books will close in New York on Saturday, 31st day of July, 1910, at 1 p.m. All books will be re-opened on Thursday, 11th day of August, 1910.

A. McNAUGHTON, Secretary and Treasurer.

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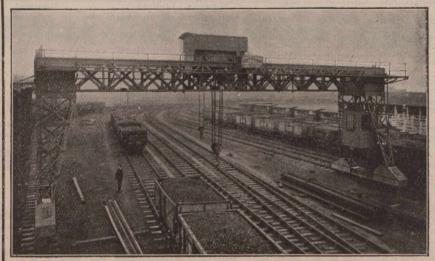
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J. T. Gardner
F. H. Hopkins & CoMontreal. Mussens, LimitedMontreal.
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The American Well WorksAurora, Ill. Machines, Boring and Turning John Bertram & Sons Co Dundas. Ont.
John Bertram & Sons CoDundas, Ont. Machines, Car Shop John Bertram & Sons Co., Ltd.Dundas, Ont.
Cincinnati Punch & Shear Co., Cincinnati.
Cincinnati Punch & Shear Co., Cincinnati, Greenlee Bros. & Co
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Machines, Hoisting Brown Hoisting Machinery Co. Cleveland.
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John Bertram & Sons Co Dundas, Ont.
Machines, Rivetting Long & Allstatter Co Hamilton, Ohio.
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Machine Tools
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Manhala Farmer and Course
American Brake Shoe & F'dry Co. Mahwah. Canada Iron Corporation, Ltd Montreal.
Marine Repairs Goldschmidt Thermit CoToronto.
Marine Supplies Rice Lewis & SonToronto.
Metal, Anti-friction W. Abbott
Metal, Babbit Tallman Brass & Metal Co., Hamilton, Ont.
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Dominion Bridge CoMontreal.
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Canadian Fairbanks Co., LtdMontreal.
Motors, Electric Allis-Chalmers-Bullock Ltd Montreal
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vandeleur & Nichols
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Motor Generator Sets Allis-Chalmers-Bullock Ltd. Montreal. Chapman & Walker, LtdToronto. Vandeleur & NicholsToronto.
Motors, Turntable Taylor & ArnoldMontreal.
Nickel The Orford Copper CoNew York.
Nickel for Nickel Steel
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Nut Locks Positive Lock Washer Co Newark, N.J.
Nuts, Clevis Cleveland City Forge & Iron Co.Cleveland.
Nuts, Square and Hexagon
Montreal Rolling Mills CoMontreal. Toronto Bolt & Forging CoToronto.
Oakum The Hudson's Bay Co
Office Fittings Can. Office & Sch'l Furn. CoPreston.
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Oils Galena Signal Oil CoFranklin & Toronto.
Packing The N. L. Piper Ry. Supply CoToronto.
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Patterns Hamilton Pattern WorksHamilton, Ont.
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Mussens, LimitedMontreal.
Pinch Bars The N. L. Piper Ry. Supply Co Toronto.
Pipe, Culvert, Cast Iron Gartshore-Thompson Pipe CoHamilton.
Pipe, Gas, Cast Iron Gartshore-Thompson Pipe CoHamilton.
Pipe, Sewer, Cast Iron Gartshore-Thompson Pipe CoHamilton.
Pipe Stocks Butterfield & CoRock Island, Que.
A. B. Jardine & CoHespeler, Ont. Pipe, Water (Cast Iron)
Gartshore-Thompson Pipe CoHamilton.
John Bertram & Sons Co Dundas, Ont.
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Mussens, LimitedMontreal.
Porter E. L. Drewry
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	S. F. Bowser & Co., LtdToronto.
	Ontario Wind Engine & Pump Co Toronto.
	James Smart Mfg. Co Brockville, Ont.
	Vandeleur & Nichols Toronto
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	John Inglis Co., Ltd Toronto.
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	Dominion Equip't & Supply Co., Winnipeg.
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