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TORONTO, CANADA, JANUARY, 1900.

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Unnecessary Railway Correspondence.

One of our subscribers, a thoroughly practical man, writes us as follows over the signature "Anti-Red Tape." What he has to say is without doubt worthy of most careful consideration:—

"I am holding a small position on a large railway in Canada. I would like to draw the attention of the higher officials, such as general superintendents, managers, etc., to a growing abuse—unnecessary correspondence. Take the following example: In conversation with a chief despatcher the other day, he told me that regarding the train service over-time tickets, the routine was as follows: 1st—He made an explanation of the over-time with each trip ticket. 2nd—He received a letter about each individual train that went into detention, & explained that. 3rd—The master mechanic sent in engineer's detention tickets & he explained again. 4th—He received from the general superintendent at the end of each month a statement of the over-time paid conductors & brakemen, & explained that. 5th—He received from the general superintendent a statement of the detention time paid engineers and firemen, & explained that. 6th He made up a statement from his train sheets monthly, showing the over-time. That is, he made six explanations of the same thing, where one should be sufficient. Can any sensible man defend such a system?"

"Another case recently came under my notice: A latch was required on a coal chute. The locomotive foreman wrote the superintendent that a latch was required; the superintendent wrote the divisional engineer asking what it would cost; the divisional engineer sent papers to his building foreman for report; the building foreman returned them, saying 50c.; the divisional engineer forwarded them to the superintendent, who forwarded them to the general superintendent, asking if he would put it on; the general superintendent said to do so; & the correspondence followed the course around again. Meantime it had cost 75c. to pick the coal up which had been wasted.

"All this correspondence has followed the advent of cheap stenography & the typewriter, & is the result of an ambition on the part of the higher officers to keep well posted on details, which can only be done to the exclusion of more important matters, & results in making minor officials wooden-heads, whereas if they were given some scope & held for results, it would make men of them & better results would follow. Another cause is that some of the officials are of the opinion that the more mail they handle the better service they render, whereas, so far as the shareholders & public are concerned, all they ask is results, & some men with their hands in

their pockets, smoking a cigar, & apparently doing nothing, are accomplishing more by thinking than the other fellow will in a lifetime with his nose ground down to the desk all day."

Commercial Travelers' Baggage.

"A Commercial Traveler" writes us: The question of convenience, time & profit, in relation to the commercial travelers & the railways, suggests a few ideas which might be considered by both interests. The railways & their employes are, as a rule, ever ready to

for being carried, & formulate a price that would be known to everyone—say, 100 lbs. of baggage 100 miles for 10c.? This sum may be too low or too high, but no doubt their mathematicians could give a price that would pay the railways. Were this system introduced, it would save the railways the cost of excess tickets & prepaid certificates. It would save the baggagemen no end of trouble just when a train was leaving. It would end the question of a commercial traveler handing any baggage to a companion going light. The idea being still further followed out would be facilitated by books of coupon tickets, which could be issued by the railways for any mileage or weight of baggage, & interchangeable on any line of railway or boat.

So far this may read as if it was all well studied out for the railways' benefit, but an idea to be of enough value for adoption between two people must be of value to both. Were this idea adopted, the commercial travelers could have their baggage all settled for by their firms before leaving for their trips. When leaving a station, the time lost in having to be there long before train time to have excess made out or prepaid certificate attended to, is well known to mostly every man on the road. Under this idea, commercial baggage could be checked as any ordinary traveler's trunks. On arrival at its destination it could be settled for by the commercial traveler. If he travelled 50 miles he would simply give up 50 miles in coupons. Every firm knows to a pound or two what their travelers are carrying, & how long a trip they will have, so the matter could easily be calculated, & it is much satisfaction to know your baggage is all settled for. By this idea the commercial traveler has the very last moment in the town he is leaving for business, just saving enough time to pack & get to the station. Under the present system he must be there from at least a quarter of an hour before train time. Then, a commercial traveler has more time when he arrives, to look after the railway's requirements.

These books of coupons would have the commercial traveler's name & certificate number & firm's name. Each coupon being numbered, belonging to a series, would easily be checked by the railways. Should a commercial traveler send part of his baggage back to his firm before he has completed his trip, it is easy to compute the number of coupons to pay on the balance. Should a commercial traveler not use his entire book, the balance could be used on a later trip, or used as part payment on a new book.

The amount of money saved to the railways by this method would very likely permit a reduction of the rate per mile on commercial travellers' passenger transportation, possibly bringing it to 2c. a mile, & if this were so,



GEORGE BELL REEVE,

General Traffic Manager of the Grand Trunk Railway System and of the Central Vermont Railway.

facilitate this part of their traffic, & it is no small part either. The commercial travelers have rarely appreciated the trouble the railways have in the handling, checking, & all the other etc., of this immense traffic. There are probably 10,000 commercial travelers, carrying, in the year, say, nearly 5,000 tons of baggage, on which the railways collect nothing direct. When this is considered, with the cost of the excess cards, prepaid certificates, & baggagemen, it is easily seen that the balance of baggage that pays its way must also pay for that which is nominally free.

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NEXT ANNUAL MEETING at Montreal, Oct. 17 & 18, 1900.

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NEXT ANNUAL MEETING at Hamilton, Ont., Oct. 10, 1900.

Canadian Marine Engineers' Association.

HONORARY PRESIDENT, O. P. St. John, Toronto; PRES., H. Parker, Toronto; 1st VICE-PRES., A. J. Woodward, Toronto; 2nd VICE-PRES., D. F. Campbell, Toronto.

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NEXT ANNUAL MEETING at Montreal, Oct. 16, 1900.

there would be no reason why the employers of travelers would not also buy the passenger as well as the baggage transportation for their travelers, for their entire trip, before they leave. These suggestions are submitted for criticism, & I hope to elicit opinions on the subject from railway officials.

RAILWAY FINANCE, MEETINGS, &c.

Albert Southern Ry.—On Dec. 28 we were officially informed that negotiations had been going on relative to the sale of this road, but that there was nothing to be made public in regard to the matter further than that the parties proposing to purchase were the same as those whose names have been recently mentioned in connection with the purchase of the Salisbury & Harvey Ry. The A.S. Ry. is very much out of repair, & the rolling stock consists of an engine & some flat cars. It is not now connected with the S. & H. Ry., the bridge between Albert & Harvey having been carried away, & the line is now used only between Prescott's Mill at West River & Harvey Bank, to haul logs, deals, etc. Some years ago it was sold to Judge Wells, of Moncton, but passed out of his hands & is now operated by W. A. Trueman as trustee of the estate of the late G. S. Turner. (Dec. '99, pgs. 346 & 363.)

American Railway Earnings.—The regular monthly compilation by the Financial Chronicle shows that 122 railways report an increase in gross earnings of \$5,923,048 for Nov., 1899. Of this total increase \$5,501,972 was by 47 roads out of the 122, the systems showing gains exceeding \$200,000, being as follows:

Chicago, Milwaukee & St. Paul.....	\$522,237
New York Central.....	519,748
Canadian Pacific.....	416,503
Louisville & Nashville.....	347,221
Southern Railway.....	271,653
Missouri Pacific.....	250,092
C., C., & St. L.....	242,281
Grand Trunk System.....	236,913
Great Northern System (U.S.A.)....	226,276

There was a gain of 10.9% over the gross earnings of Nov., 1898, which showed an increase of 4.5% over 1897, which in turn made an increase of 21% over the earnings of 1896, which were also 10.1% greater than the earnings of November, 1895. A heavy increase in railway earnings has generally been largely due to the movement of unusual grain or cotton crops. During Nov., 1899, however, the shipments of wheat were nearly 20,000,000 bus. less than for Nov., 1898, & there was a considerable falling off in the traffic in corn, cotton & live stock. The cause of the large earnings is, therefore, to be found in the unprecedented industrial activity. The mills throughout the country are absorbing vast quantities of raw material & turning out finished products in volume hitherto unknown.—Railroad Gazette.

The Calgary & Edmonton Ry. Co. announce that the Dominion Government subsidy for the six months ended Dec. 31, together with the net earnings of the Co. to Oct. 31 last, will permit of a distribution on the first mortgage bonds of £1 5s. in respect of interest due Jan. 1. The Co.'s certificate will be given for the unpaid balance of coupon.

Net earnings Nov. '99, \$12,365.54, against \$5,694 in Nov. '98.

Canada Southern.—At a meeting in New York, Dec. 21, F. W. Vanderbilt was elected a director, succeeding his brother, the late C. Vanderbilt. C. F. Cox, formerly Vice-President, was elected President, & his place was taken by E. A. Wicks. F. Middlebrook was elected Treasurer. The usual semi-annual dividend of 1% was declared.

Canadian Pacific.—Baring Brothers & Co., London, Eng., announce the payment on Jan. 1, of the coupons then due of the following issues: Atlantic & Northwestern Ry., 5% sterling 1st mortgage bonds; C.P.R. (Algoma Branch) 5% 1st mortgage bonds; C.P.R. 5% bonds; C.P.R. 3½% land grant bonds.

Coast Ry. of Nova Scotia.—At the adjourned annual meeting at Yarmouth, Dec. 13, the following were elected:—President, T. Robertson, M.P.P.; Vice-President, W. B. Ross, Halifax; other directors, Senator Lovitt, J. Burrill, A. M. Hatfield, Yarmouth; G. A. Cox, Shelburne; W. H. Jackson, J. H. Noblitt, J. S. Engart, Philadelphia, Pa.; Secretary, — Cooper.

Dominion Atlantic net earnings, 11 months to Nov. 31, 1899, \$706,025, against \$594,271 for corresponding period.

Great Northwest Central.—A special general meeting of shareholders will be held at the head office, room 200, Union Station, Toronto, on Jan. 22, to consider whether it is expedient to lease the Co.'s railway to the C.P.R. Co., & if so, to settle the period & the terms & conditions of the lease. To ascertain the amount of the claims against the Co., & provide, as far as possible, for their payment. To authorize the issue of bonds, & to authorize a mortgage on the properties to trustees to secure the payment of the bonds & interest & to nominate the trustees.

The Co. will make application to the Minister of Railways in Ottawa, on Mar. 3 for the sanction of the Governor-in-Council to a lease of its railway to the C.P.R. Co. in perpetuity, at which time and place the lease will be subject to inspection, & all persons interested may appear & be heard on the application.

Great Northern (U.S.A.)—It is said employees of the Co., including conductors, drivers & other trainmen, are to become stockholders in Feb. It is understood the management has decided to recommend to the stockholders, a plan for the distribution of a large block of the Co.'s shares among the men who have been in the service of the Co. for a certain number of years. The sum will aggregate several hundred thousand dollars. It is said that the plan will be to increase the capital stock 10% & to allow the men to subscribe for a round amount at par.

It is said President J. J. Hill has acquired a majority interest in the stock of the St. Paul & Duluth R.R., an independent line connecting Duluth & Minneapolis & St. Paul. The Chicago, Milwaukee & St. Paul road has had traffic arrangements with the Duluth road & it is predicted that this line will now build a road to Duluth. This will make a total of four roads between the points mentioned.

It is reported that President Hill expects to consolidate his recent purchases, the Sioux City & Northern, & the Sioux City & Western, with the southwestern branches of his railway system into one subsidiary system, with headquarters at Sioux City.

Miles Canyon & Lewes River Tramway Co.—A special general meeting of shareholders will be held at Victoria, B.C., Jan. 23, to arrange for providing funds for constructing & equipping the line.

Ottawa & New York.—An important case was decided at the recent sessions at Ottawa by Judge Mosgrove. W. D. Lees, an Ottawa barrister, has an office also in the town of Russell, & in connection with his business there makes trips to that place, using the O. & N.Y. line. In his statement of claim, Mr.

Lees says the Co. held itself out as a common carrier & took & carried goods & passengers on its line for hire. From July 30, 1898, until May 20, 1899, Mr. Lees paid the Co. \$49,55 for railway fares, & he claimed that the Co. has no right to collect that or any amount by law, because it had not complied with the provisions of the Railway Act. He therefore claimed that he was entitled to the return of the money he had paid, & also for three times the amount of the money paid. He based his case on the section of the Railway Act which requires a railway company to publish in the Canada Gazette for a certain period its rates, & the same must be approved by the Railway Committee. For non-compliance the Railway Company must return the fares, & three times the fares, to the passenger. It was shown that the Co. had not carried out these requirements of the Railway Act, & for that reason the judge gave a decision for Mr. Lees. Counsel for the defendants contended that Mr. Lees had paid the money voluntarily & had received value for the services rendered. An appeal will be entered against the decision. A jury had been secured to try the case, but it was not referred to them.

From Ottawa comes an unconfirmed press report that there is a probability of this line, after it is completed next summer, being secured by the C.P.R. It is claimed that it will shorten the passenger time between Ottawa & New York by three hours.

Pontiac Pacific Jet.—At a special meeting of shareholders in Montreal Dec. 15, the acceptance by the directors of H. J. Beemer's contract for building of 9 miles of railway from Aylmer to Hull was ratified. The issue of \$180,000 bonds as collateral security to him was approved of.

Pullman-Wagner.—By the consolidation of the Pullman & Wagner palace car companies, concluded Dec. 30, W. E. Vanderbilt, F. W. Vanderbilt, W. S. Webb & J. P. Morgan became directors of the Pullman Co. When the consolidation plan was agreed upon in Chicago in Oct. last, it was stated that it would not be many months before the Vanderbilts had a man of theirs as President of the Pullman Co. The President at present is R. T. Lincoln, son of Abraham Lincoln. The capital stock of the Pullman Co. is \$54,000,000. By the issuing of 200,000 shares to pay for the Wagner Co., it became \$74,000,000, but it is believed generally that it will be increased to \$100,000,000. The capital of the Wagner Co. was \$20,000,000. One of the conditions believed to have been attached to the consolidation, though not publicly announced, was an agreement by the Pullmans to turn over to the Vanderbilts all their holdings in the Boston & Albany & the Boston & Maine railroads. Such a transfer would help the Vanderbilts in new territory.

Qu'Appelle, Long Lake & Saskatchewan.—Net earnings Nov. '99, \$6,414.96, against \$3,475.75 in Nov. '98.

Quebec Central.—Gross earnings for Nov. \$38,801.53, against \$33,756.83 in Nov. '98. Working expenses \$27,517.89, against \$24,148.61. Net earnings \$11,283.64, against \$9,608.22.

Gross earnings 10 mos. to Nov. 30, \$469,127.01, against \$419,611.55. Working expenses \$303,195.19, against \$277,976.82. Net earnings \$165,931.82, against \$141,634.73.

The Quebec & Lake St. John Ry.—Our advices from London, Eng., are to the effect that the bondholders' committee will most likely issue a further circular to the shareholders shortly. J. G. Scott, Manager & Secretary of the Co., has been in London in connection with the Co.'s finances. (Sep., '99, pg. 257).

The Oct., '99, earnings increased \$3,337 over Oct. '98.

United Counties Ry.—There is no further information about the purchase of this line in the interest of the Rutland Ry. Co. The authorized capital of the U.C. Co. is \$100,000 which is said to have been distributed largely for "services," very little having been paid up. The road has not done well, as it runs through a poorly populated district, the Co. has had considerable difficulty in meeting its engagements & a number of suits have been entered against it. The road is bonded to the fullest extent & the 20 miles between Iberville & St. Robert are to be offered for sale by the sheriff at St. Hyacinthe, Jan. 26, under a judgment held by the Sisters of the Precious Blood. (Dec. '99, pg. 346.)

White Pass & Yukon.—The earnings for the week ended Dec. 7 were \$4,100, making from the opening of the line to Dec. 7, \$859,719.

The case of Wilkinson vs. Graves which came up for hearing in the Queen's Bench Division, in London, Eng., the first week in December, before the Lord Chief Justice & a special jury, was an action by C. H. Wilkinson, of London, Eng., to recover from S. H. Graves, member of the firm of Close Bros. & Co., of London & Chicago, damages for alleged libel. It appeared that on May 7, 1898, defendant addressed a letter to E. Midgley which imputed blackmail by plaintiff of Close Bros. & Co. by demanding money by threat in connection with the promotion of a company for the construction of the White Pass & Yukon Ry. Defendant admitted writing the letter complained of, but said his firm was interested with others in the Assets Development Co., Ltd., formed for the purpose of promoting the scheme, & that the letter was privileged & justifiable & written without malice in the belief that it was true. After hearing addresses of counsel, his Lordship summed up remarking that it was a striking fact that plaintiff, who was at the head of a big financial scheme, was an undischarged bankrupt, having incurred debts to the extent of £75,000, while the assets were only £10, & the trustees in bankruptcy were certain not to realize a single penny. Under the protection of enormous privileges powers were exercised which were a public scandal, & a scandal which suggested that the law in respect to the formation of public companies should not be allowed to continue as it is. He had ruled at the close of the case, & he repeated the ruling, that the occasion upon which the words complained of were used was a privileged occasion, & that in itself put an end to the case, unless the jury were of opinion that at the time defendant wrote the letter he was actuated by express malice, which alone would deprive defendant of his protection of privilege. The jury, without leaving the box, returned a verdict for defendant, and judgment was entered for him with costs.

Duluth, South Shore & Atlantic.

In New York, Dec. 6, Judge Wheeler, of the U.S. Circuit Court, filed a decision overruling the demurrer entered by the defendant in the suit brought by J. E. Berwynd, of New York, as a stockholder of the North Star Construction Co., of New Jersey, against the C. P.R. Co., for an accounting & the payment into court of the securities of the Construction Co., the owner & builder of the Duluth & Winnipeg Ry., the owner of the stock of the Duluth & Winnipeg Terminal Co., & the North Star Iron Co., which were secured by the C.P.R. Co. as collateral security through a transaction between President Foley of the Construction Co., & President Van Horne of the C.P.R. The securities were obtained by President Foley in lieu of a debt of \$600,000, which was owed to him by the Construction Co. Berwynd, in his bill of complaint, alleges that the C.P.R. Co. changed the name of the Duluth & Winnipeg R.R. to the Duluth, South

Shore & Atlantic R.R., & disposed of it & the securities of other corporations obtained from President Foley at much below the market value, & says: "They were sold & bid in for much less than the amount of the debts on which they were pledged & that the Duluth railroad was conclusively foreclosed."

The C.P.R., in entering the demurrer, assigned want of jurisdiction in equity & want of ground for relief. Judge Wheeler in his decision says: "The jurisdiction of the parties seems to be well shown & the bill does not allege with much verbiage many conclusions of law, which, as argued for the defendant, do not of themselves afford ground for relief, but when they are supported by allegations of fact the conclusions of law do not take away the effect of these allegations. Enough of fact is set forth to show, if true, that the C.P. Railway Co. obtained control of the assets of the Construction Co. in such a manner as to be accountable for their management, disposition & avails, which the forms of corporate action & of legal proceedings conclusively taken in the interests of the C.P.R. Co., as alleged, do not take away. In this view the demurrer cannot be sustained, but must be overruled. Defendants must file answer by Jan. rule day."

Berwynd says that he owns \$25,000 stock of the North Star Construction Co., & that he filed the bill of complaint in behalf of himself & all others similarly situated who may come in the suit.

Temiscouata Railway Case.

In the Chancery Division in London, Eng., Dec. 12 & 13, Mr. Justice Farwell had before him the case of the Trustees, Executors & Securities Insurance Corporation, Ltd., v. Armstrong. This was an action to obtain the repayment by W. C. H. Armstrong, of £42,000 trust money obtained by alleged misrepresentation.

Mr. Eady, Q.C., for plaintiffs, stated that defendant, under the name of Armstrong & Co., was the London agent of the Temiscouata Ry., of which the plaintiffs held £50,000 bonds, which they were empowered to dispose of on certain conditions. The charge against the defendant was a very serious one, it being alleged that he had secured the selling of the £50,000 bonds by what the plaintiffs said was a false & fraudulent misrepresentation. There had been an issue of £274,000 bonds in Mar., 1889, & the £50,000 in question formed the balance of the total issue of £324,000. This first issue was not very well subscribed for by the public, but the bonds were taken up by defendant & the underwriters, & it was alleged that defendant obtained the new issue of the bonds with the object of passing off the old bonds in place of the new, a scheme being devised for the purpose of deceiving the Stock Exchange, & of dealing with the old bonds as if they were the new issue. In this scheme the defendant, it was said, was joined by the Vice-President (the late Hector Cameron) of the Temiscouata Ry. Plaintiffs could prove these dealings in the bonds by a series of letters, but counsel's first object was to show that the £50,000 worth of bonds had been obtained by a misrepresentation. These bonds were held on trust by plaintiffs only to be used for the building of sidings, rolling stock & light works in connection with the main line. The defendant was anxious to get the issue of these bonds in order to enable him to get rid of the old ones. It was therefore arranged that the railway company should apply to have the £50,000 released for the building of a new siding, while the money was, in fact, to build a branch line which had already been separately bonded. Defendant had been advised by the railway company's solicitors that the money could not be obtained legally for constructing a branch line, & thereupon defend-

ant wrote to the railway company advising it to call the branch line a siding. This was done, & owing to the misrepresentation the bonds were handed over to defendant. Counsel proceeded to read a mass of correspondence & other documents to show the nature of the defendant's dealings on the Stock Exchange for the purpose of preparing a market for the issue of the bonds. The correspondence, which extended over a considerable period, was chiefly addressed to Hector Cameron, to whom Armstrong detailed his efforts to keep up the market throughout that period. At length defendant suggested that nothing could be done except they were helped in the issuing of the £50,000, & incidentally defendant stated that "the London Press in every instance had refused to publish our carefully prepared articles about the railway." In another communication defendant promised to arrange to have the issue over applied for, & said that there was nothing to prevent "palming off" the old bonds for the new ones. In the end the Vice-President of the company consented to defendant's scheme as the best possible plan for getting rid of the old bonds.

In the course of counsel's statement Sir Edward Clarke, for defendant, said that his case was that although the branch in question might have become a portion of the line at the time it was proposed and that the bonds were issued, it was really built for a siding. It could not be suggested that there was any attempt to deceive.

Mr. Eady said his Lordship had expressed a wish to know why his clients had sued Mr. Armstrong & not the company. Armstrong was the agent, & in a case of fraud was liable as a principal. No party could be admitted to be excused on the ground that he was an agent. The agent could not shelter himself on the ground he was agent & had paid the

money over to his principal. He had obtained the payment of this trust money by fraud, & was as much a principal as the company. What he understood Sir Edward Clarke to say was that although that portion of the railway had, in fact, become part of the branch, & had been bonded as such, it was constructed as a siding.

Mr. Vernon said that he did not think Sir Edward Clarke said that, because it was part of defendant's case that it was part of the main line.

Mr. Eady said in the view of the trustees there was a main line & a siding & a branch line, but a little later they wanted to know whether the siding had been built on the land in the trustees' conveyance, but they had received an unsatisfactory reply.

Justice Farwell said that if the plans were not admitted he would have to adjourn the case.

Mr. Warmington, Q.C., said that he did not know whether the plans were proper evidence.

Justice Farwell said that if it should turn out that Mr. Eady's plan was delusive, he would consider the costs of the adjournment in that connection. The case had better stand over until the properly certified plans were obtained, & then the case could be restored to the list.—Canadian Gazette.

Steel Ties.—It is said the use of steel ties for experimental purposes on the New York Central R.R. has not given satisfactory results. They are durable, but hard to line; the ballast shakes away from them, & they give a rattling sound from the stone ballast & from the bolts, which is disagreeable to passengers. Some have proved to be so unsatisfactory that they are being replaced by oak ties.

C.P.R. Earnings & Expenses.

Gross earnings, working expenses, net profits and increases over 1898, from Jan. 1, 1899.

	Earnings.	Expenses.	Net Profits.	Increase.
Jan.	\$1,864,570.36	\$1,247,036.50	\$ 617,533.86	\$101,906.27
Feb.	1,753,382.82	1,153,651.34	599,701.48	176,034.12
Mar.	2,109,667.58	1,280,772.01	828,895.57	75,662.06
Apr.	2,196,312.40	1,276,038.91	920,303.49	203,212.80
May	2,402,151.29	1,369,392.68	1,032,758.61	109,096.30
June	2,362,278.67	1,339,218.47	1,023,060.20	203,664.83
July	2,395,625.47	1,412,863.84	972,661.63	242,272.84
Aug.	2,474,036.85	1,455,203.13	1,018,833.72	135,804.84
Sept.	2,649,785.37	1,502,899.82	1,146,885.55	54,371.89
Oct.	3,084,634.55	1,673,588.61	1,411,045.94	155,170.45
Nov.	2,977,403.62	1,635,167.81	1,282,235.81	201,727.02

\$26,259,819.05 \$15,495,635.12 \$10,854,183.93 \$1,657,923.42

Approximate earnings for Dec., \$2,934,009, against \$2,638,000 in Dec., 1898; increase, \$296,000.

SUBSIDIARY LINES.

DULUTH, SOUTH SHORE & ATLANTIC.—Approximate earnings for Dec., \$206,476; increase over Dec., 1898, \$73,032

Net earnings for 10 months to Oct. 30: \$772,803, as against \$493,714 for corresponding period.

MINERAL RANGE, HANCOCK & CALUMET.—Approximate earnings for Dec., \$46,199; increase over Dec., 1898, \$13,504.

MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE.—Approximate earnings for Dec., \$420,742; increase over Dec., 1898, \$51,129.

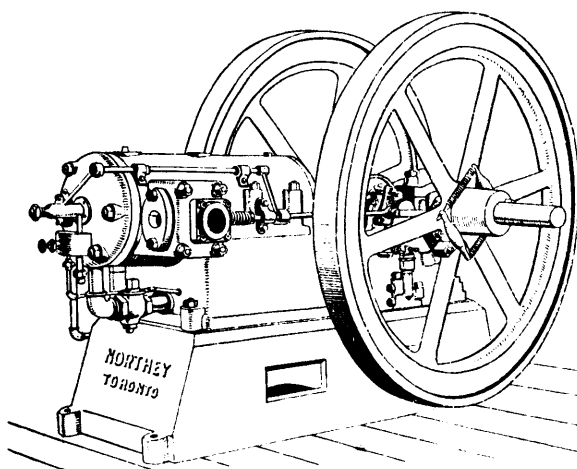
Net earnings for 3 months to Sep. 30: \$583,672, against \$496,572 for corresponding period.

Grand Trunk Earnings, Expenses, &c.

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

The Northey Gas or Gasoline Engine.

In Connection with Pumping Machinery for Tank Duty.



"BUILT FOR HARD WORK."

We will cheerfully send Booklet and every information upon request.

The Northey Mfg. Co., Limited, 1032 KING ST. SUBWAY, Toronto, Ont.

Railway Officials will find the Northey Engine to be a marked improvement over steam or other forms of power for this duty. It is simple of construction, and easily managed, necessitating only the turn of a fly-wheel to start, while it can be going at full speed in a few seconds and be shut down on the instant. Needs no engineer to look after it, the station hands can do all that is required, while it will run for hours at a time with little or no attention. The Engine is compactly built and of the best materials; it uses either gas or gasoline for fuel, and its safety and economy with either have proved it to be the most satisfactory power in the market.

	1899	1898	Increase	Decrease
Jan....	\$ 1,956,281	\$ 1,916,332	\$ 39,949	.....
Feb....	1,824,434	1,674,453	149,981	.....
Mar....	2,186,359	2,048,970	137,389	.....
April...	1,912,543	1,918,477	24,066	.....
May....	2,039,239	1,940,980	98,259	.....
June....	2,062,137	1,880,402	181,735	.....
July....	2,105,403	1,860,884	244,519	.....
Aug....	2,301,559	2,002,802	298,757	.....
Sept....	2,488,829	2,261,148	227,681	.....
Oct....	2,500,581	2,260,573	240,008	.....
Nov....	2,426,992	2,190,079	236,913	.....
Dec....	2,431,194	2,176,940	254,254	.....
	\$26,358,551	\$24,132,040	\$2,226,511	.....

The following figures are issued from the London, Eng., office:

GRAND TRUNK RAILWAY.

Revenue statement for Oct., 1899:

	1899	1898	Increase	Decrease
Gross receipts....	£424,400	£382,258	£42,142	.....
Working expenses....	262,500	237,759	24,741	.....
Net profit.....	£161,900	£144,499	£17,401	.....

Aggregate July 1 to Oct. 31, 1899:

	1899	1898	Increase	Decrease
Gross receipts....	£1,601,647	£1,407,861	£193,786	.....
Working expenses....	1,012,515	892,116	120,399	.....
Net profit.....	£589,132	£515,545	£73,587	.....

CHICAGO AND GRAND TRUNK RAILWAY.

Revenue statement for Oct., 1899:

	1899	1898	Increase	Decrease
Gross receipts....	£70,300	£63,074	£6,626	.....
Working expenses....	65,100	54,018	11,082	.....
Net profit.....	£5,200	£9,656	.....	£4,456

Aggregate July 1 to Oct. 31, 1899:

	1899	1898	Increase	Decrease
Gross receipts....	£257,955	£238,877	£19,078	.....
Working expenses....	224,572	196,653	27,919	.....
Net profit.....	£33,383	£42,224	.....	£8,841

DETROIT, GRAND HAVEN AND MILWAUKEE RY.

Revenue statement for Oct., 1899:

	1899	1898	Increase	Decrease
Gross receipts....	£19,000	£18,567	£433	.....
Working expenses....	11,300	13,039	.....	1,739
Net profit....	£7,700	£5,508	£2,192	.....

Aggregate July 1 to Oct. 31, 1899:

	1899	1898	Increase	Decrease
Gross receipts....	£80,704	£74,228	£6,076	.....
Working expenses....	50,311	51,469	.....	1,158
Net profit.....	£20,993	£22,759	.....	£1,766

DETAILS OF G.T.R. RECEIPTS JULY 1 TO NOV. 30.

	1899.	1898.
Passengers, number.....	3,215,275	3,273,880
" amount.....	£ 582,306	£ 495,111
Immigrants, number.....	5,021	6,315
" amount.....	£ 4,473	£ 3,882
Mails, express, &c.....	£ 92,917	£ 87,842
Freight, tons.....	4,466,282	3,905,617
" amount.....	£1,282,338	£1,141,784
Miscellaneous receipts.....	£ 55,480	£ 52,900
Total receipts.....	£2,017,514	£1,781,228
Increase.....	£ 236,286	.....

TRAFFIC RECEIPTS OF THE SYSTEM.

Traffic receipts, July 1 to Nov. 30.

	1899.	1898.	Increase.	Decrease.
Grand Trunk....	£2,017,514	£1,781,229	£236,285	.....
Chicago & G.T....	325,180	298,984	26,196	.....
D., G. H. & M....	99,144	90,778	8,366	.....
Total.....	£2,441,838	£2,170,991	£270,847	.....

Chicago & Grand Trunk Finances.

In our issue of Nov. '99, pg. 318, we gave very full particulars of the scheme proposed for the reorganization of this Co. Subsequent to the issue of President Hays' circular to the 1st & 2nd mortgage bondholders, which we reproduced, he issued the following notice:—"It having come to the knowledge of the C. & G.T.R. Co. that many holders of 1st mortgage bonds are under the impression that if they do not deposit their bonds with Glyn, Mills, Currie & Co., on behalf of the trustees, in favor of the scheme of reorganization, they will be paid off in cash on Jan. 1, 1900, notice is given that there are no funds available for the purpose, & that the bonds cannot be paid. Bondholders are, therefore, urgently recommended to deposit their bonds without delay,

for which purpose the time for deposit has been further extended until Jan. 1, 1900.

A. Keyser & Co. recently wrote the London, Eng., press:—"With reference to the announcement that the C. & G.T.R. Co. will default on its 1st mortgage bonds due Jan. 1, next, we beg to invite holders to communicate with us with a view to the formation of a committee for enforcing their rights." They also announced having arranged with their New York correspondents, Simon Borg & Co., to represent them & all other bondholders who might join them in enforcing their rights. They requested all holders to deposit their bonds under a bondholder's protective agreement with Martin's Bank, Ltd., who would issue negotiable certificates for the same.

A Detroit, Mich., despatch of Jan. 4 says:—"Judge Swan of the U. S. Circuit Court yesterday appointed E. W. Meddaugh & H. B. Joy of this city receivers of the entire system of the C. & G.T.R. Co. extending from Port Huron to Chicago. The appointment of the receivers is the result of a bill filed by the Mercantile Trust Co. of New York, trustees, to foreclose the senior mortgage of the C. & G.T.R. Co. for the principal of the bond debt of the Co. in the sum of \$6,000,000, which matured Jan. 1. The Co. is understood to be badly insolvent. This mortgage was made some 20 years ago, & a 2nd mortgage followed 2 years later, which was also for \$6,000,000. It is understood that, with the exception of one or two years, the Co. has never earned a sufficient surplus over operating expenses to pay the interest on its mortgage debt since the 1st mortgage was made, & that it would long since have gone into insolvency but for contributions to the interest by the G.T.R. Co. of Canada, which contributions have been under traffic agreements that limit the obligation of the latter Co. to such interest.

"A scheme of liquidation & reorganization has been submitted by the Co. to the bondholders, & a majority of the bonds under each mortgage have been deposited with the trustees appointed for that purpose. The scheme is to create a new mortgage to secure an issue of bonds for \$15,000,000 at 4% interest, payable semi-annually, to exchange these bonds for the 1st mortgage bonds, dollar for dollar, & for the 2nd mortgage bonds at 75c. on the dollar, & to issue the remainder of the bonds for capital to double-track the line, improve its alignment, etc.

"The G.T.R. Co. is a large shareholder & creditor of the C. & G.T.R. Co., & in consideration of the scaling down of the interest & reduction of the principal of the 2nd mortgage, has signified its willingness to enter into agreements which practically guarantee the interest on the proposed new bond issue. It is expected that the receivership will not continue longer than the period required for a sale of the defendant Co.'s property under the foreclosure proceedings, as the terms proposed to the bondholders are considered just & under the conditions, liberal.

"Receiver Meddaugh believes the expensive terminal in Chicago was to a considerable extent responsible for the Co.'s financial disability."

In connection with the receivership a number of circulars were issued on Jan. 3.

President Hays notified all officials, etc., of the C. & G.T.R. Co., including those of the Cincinnati, Saginaw & Mackinac R.R. Co., that Messrs. Meddaugh & Joy had been appointed receivers of the railway & property of the C. & G.T.R. Co., & having formally demanded possession thereof, possession had been surrendered. Mr. Meddaugh is General Counsel for the G.T.R. system at Detroit. Mr. Joy is a capitalist of that city.

The receivers gave notice of having taken charge of the property, instructed employes to continue in the same duties as heretofore, as agents of the receivers, & stated that existing arrangements would as far as practicable

be maintained, that the orders of the Court provided for & fully secured the payment of outstanding indebtedness for labor & supplies, & that any legal action or expense incurred by holders of such claims would be superfluous. Pending the issue of new forms employes were instructed to write on the heading of all forms used the names of the receivers above the name of the Co.

The receivers made the following appointments: W. Cotter, heretofore Superintendent of the Western division of the G.T.R. system at Detroit, to be Superintendent; J. H. Muir, heretofore Treasurer G.T.R. lines west of Detroit & St. Clair Rivers, at Detroit, to be Auditor & Treasurer; D. Brown, heretofore First Assistant General Freight Agent of the G.T.R. at Chicago, to be General Freight Agent; G. T. Bell, heretofore First Assistant General Passenger & Ticket Agent of the G.T.R. at Chicago, to be General Passenger & Ticket Agent; J. E. Muhfeld, heretofore Master Mechanic of the G. T. R. at Port Huron, to be Master Mechanic; J. Hodgson, heretofore Master Car Builder of the G.T.R. at Port Huron, to be Master Car Builder.

The receivers gave notice that Auditor & Treasurer Muir would receive & dispose of monies for their account, & that agents, conductors & others would make their remittances under his instructions.

Auditor & Treasurer Muir notified agents of the C. & G.T.R. & of the C.S. & M.R.R. to remit their daily receipts to the receivers, care of the Commercial National Bank of Detroit, & to send advices of same to him instead of to Montreal, & conductors were notified to send reports of cash, fares & tickets to him instead of to Montreal.

Railway & steamboat companies are requested to continue to report to the G.T.R. system tickets sold over the C. & G.T.R., & the C.S. & M.R.R. That system will report tickets sold on those railways over other lines. They are also requested to continue to report the mileage of the C. & G.T.R. & the C.S. & M.R.R. cars on their lines to that system in the same manner as heretofore, stating separately the mileage for Jan. 1 & 2. That system will report mileage of foreign cars on the lines named. Balances due for tickets & car mileage will continue to be collected & paid by that system with its own balances. That system will also deal with through freight claims for the C. & G.T.Ry.

Canadian Pacific Railway Land Sales.

	Acres.		Amount.	
	1899	1898	1899	1898
Jan....	14,718	22,044	\$ 46,411.35	\$ 72,924.83
Feb....	13,747	20,650	43,371.00	66,399.00
Mar....	24,045	33,421	74,430.00	109,010.00
April....	36,626	43,145	116,835.00	140,276.00
May....	39,573	43,148	125,862.00	137,375.00
June....	54,225	49,203	169,234.00	160,200.00
July....	47,402	39,512	149,546.00	123,010.00
Aug....	35,214	19,448	110,705.00	63,911.00
Sept....	25,517	18,007	83,719.70	56,936.43
Oct....	30,473	17,026	99,429.09	55,976.67
Nov....	47,633	25,979	140,491.39	82,918.64
Dec....	52,255	17,939	164,762.38	54,703.01
	416,428	348,612	\$1,324,796.91	\$1,123,694.58

Last year's land business was the largest in the history of the Co. In addition to the above figures the Canada Northwest Land Co.'s sales for 1899 are approximated at 83,000 acres, the proceeds of which will total \$445,000. In 1898 the C.N.W.L. Co. sold 71,000 acres for \$383,000. Its business is now administered in connection with the C.P.R. Land Department.

When the sales of townsites in which the C.P.R. Co. is interested, & farm lands in B.C. handled in the Winnipeg office, are taken into consideration, the gross business done by the Co.'s Land Department will total closely on \$2,000,000.

In reference to the phenomenal increase, Land Commissioner Hamilton says:—"The opening of the new branch lines in Manitoba

enabled us to sell considerable land around the McGregor & Waskada districts. The extension of the Pipestone branch has also caused a great many home-seekers to make extensive purchases. Increased immigration from the better classes in the U.S. also helped to increase sales."

Grand Trunk Betterments, Etc.

Rapid progress is reported as being made with the steel work for the general office building on McGill st., Montreal, & the erection of this part of the work is expected to be commenced in Feb. The stone work will probably be resumed in April. (Nov., '99, pg. 322.)

The ratepayers of Meaford, Ont., have passed a by-law granting bonuses amounting to \$56,000. Of this \$31,000 is to be given to the G.T.R. to divert its line so as to connect with the harbor at Meaford, & to erect station & other buildings for the transaction of all its business at that town in connection with the harbor & with an elevator to be erected there. The remaining \$25,000 is to be given to the Botsford-Jenks Co., of Port Huron, Mich., to erect at Meaford an elevator to cost not less than \$100,000 & with a storage capacity of, at least, 600,000 bush.

Capt. Marsh, of the Lake of Bays Navigation Co., Huntsville, Muskoka, was recently reported to be endeavoring to induce the G.T.R. management to build about a mile of railway over the strip of land dividing Peninsular Lake & Lake of Bays. We are informed that there is no immediate intention on the part of the Co. to undertake the work.

Piles have been driven along the embankment at the west end of the bridge at Brantford, which was threatened with a wash-out last spring. This, and a stone facing, are expected to keep the river within bounds.

Arrangements are said to have been completed by which the Co.'s old shops in Brantford will be utilized as malleable iron works by the Pratt & Letchworth Co.

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

Ontario & Quebec Division.—J. W. Leonard, who was the first general superintendent to get betterment appropriations for 1900, secured them to the extent of \$200,000 just before Christmas. Considerable ballasting will be done between Montreal & Toronto, & between Chatham & Windsor. The employment of heavier power, which means longer trains, has necessitated the lengthening of

sidings, & \$20,000 will be spent on them between Montreal & Toronto.

At Smith's Falls, divisional offices, to cost \$6,000, will be built. The tea storehouses for the accommodation of the tea trade from the Orient, are situated at Smith's Falls, & it has become necessary to increase them. Their present capacity will be doubled at a cost of \$11,000. For this work the yards at the Falls will be re-arranged.

During 1899 some \$26,000 was spent on straightening the line between Havelock & Toronto. The present appropriations include \$40,000 more for this work, much of it is rock work, & will be proceeded with at once.

In Toronto the freight shed room will be more than doubled by the erection on the water side of the present sheds, between York & John streets, & parallel to them, of sheds 40 by 150 ft.

It is contemplated to provide large coal storage bunks at Toronto Jct. to guard against any possibility of a shortage of fuel. The terminal yards at Toronto Jct. will be increased from 1,100 to 1,600 cars capacity, & an additional stores building will be erected. There also are expenses consequent upon increased business. A 65-ft. turn-table is to be built to accommodate the larger locomotives now in use.

The grade between Orangeville & Orangeville Jct. will be cut at an outlay of \$6,000. At present the engines will haul 1,100 tons from Flesherton to Orangeville Jct., & only 800 over the grade. The grade will be cut so that the larger load may be taken through to Orangeville.

The business at Owen Sound has increased enormously, & to keep pace with it the loading facilities at the docks & yards will be increased 400%, & the storage capacity for flour 25%. The cost will be \$30,000. This work will be gone on with at once so that it may be completed by the opening of navigation.

Mr. Leonard speaks of his \$200,000 appropriation as "a preliminary canter," which may be added to as the year advances.

Perth Car Shops.—We are informed by an official that there is no truth in the report that these shops are to be removed to Toronto Jct. next spring.

Canal Between Georgian Bay & Lake Nipissing.—The Ottawa rumor factory credits the C.P.R. with the intention of constructing a canal with 20 ft. of water up the French River, from the Georgian Bay to Lake Nipissing, & of building elevators at North Bay. The distance from Lake Nipissing to the mouth of the French River is 69 miles, & there

is said to be a rise of 61 ft. divided among 7 or 8 falls or rapids, the intervening stretches of river being wide & deep.

Western Division.—A large amount of work was done during 1899. In addition to the usual ballasting, filling of bridges, & other general betterments along the line, the wooden structures over the Brokenhead & Whitemouth rivers have been replaced by masonry & steel girders, & a 44 ft. stone arch has been erected over the mill race at Keewatin. The divisional point has been removed from Manitou to La Riviere, where a two-storey round house has been erected, also coal chutes of a unique design. The Stonewall branch extension to Teulon has been surfaced & lined. A handsome stone station & a freight house has been erected at Virden. At Moose Jaw the station & hotel have been completed, coal pockets have been erected & a station yard has been built. Coal pockets have also been erected at Maple Creek & Bassano. Gleichen & Canmore have been closed as divisional points & a divisional point has been established at Calgary, where a running shed & coal pockets have been erected, & a large yard has been provided. Masonry abutments have been put in under the span at the second crossing of the Bow River, & the approaches have been filled. The wooden trestle over Sunshine Creek has been replaced by masonry & steel. In addition to the above mentioned work a large amount of construction has been done, including the Snowflake branch, 16½ miles; the Deloraine Waskada branch, 18 miles; grading on the branch from McGregor to Varcoe, & the extension of the Pipestone branch, all of which we have referred to from time to time & some later details of which are given below.

Fort William.—A 20-stall engine shed has been built. The yard has been rearranged, increasing its capacity about 50%, & leads have been provided so that switching can be done without one engine interfering with another. (Dec., '99, pg. 349.)

Fort William to Winnipeg.—The surveys for the double tracking of this portion of the main line, which were carried on last season by Division Engineer Busted under the supervision of H. D. Lumsden, C.E., have been completed between Fort William & Dexter, 54 miles, & between Eagle River & Rennie, 118 miles. For several years past, in the renewal of bridges the abutments have been built for double track, also all permanent culverts. Last year sidings at 22 stations were lengthened to 4,000 ft. each, & so placed as to form part of the second track. Between Gonor & Louise Bridge, Winnipeg, about 23

MICA BOILER COVERING

For Locomotive, Marine and Stationary Boilers

Tested by Mechanical Experts of the C.P.Ry. Co., G.T.Ry. Co., M.C.Ry. Co., Boiler Inspection Insurance Co., and proved to be the

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All Steam users should see the Mica Boiler and Pipe Covering—Flexible, Durable and Highest non-Conductor of Heat in the Market.

Full particulars, reports of trials, testimonials, prices, etc., from

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miles, have been laid with 73 lbs. steel. (Dec., '99, pg. 349.)

Rat Portage.—A large amount of work was done at Rat Portage during 1899, including the erection of an improved passenger station, a 20 stall locomotive shed, coal pockets, water tank, ice house & stores building. The freight shed has been transferred to a more convenient location, warehouse sites have been provided, & rock cuttings at the east & west ends of the yards have been removed, & the capacity of the yard has been increased 100%. (Nov., '99, pg. 324.)

The Bonnet Lake Branch, from the main line at Molson, 45 miles east of Winnipeg, had been graded from the main line about 4 1/2 miles up to Dec. 15. Grading is still being carried on by station work in some of the muskgs. The whole of the branch, some 22 or 23 miles, has been located, but an attempt is being made to change the location of the northerly 12 miles, to improve the grades & slightly reduce the distance. The terminus will be at the clay banks on Bonnet Lake. A little track may be laid this winter, & it is expected to have the branch completed by June. Its object is to develop the clay, mineral & forest products along its route, besides which it will afford a picturesque camping ground for Winnipeggers who wish to spend the summer out of the city. (Dec., '99, pg. 349.)

Winnipeg Terminals.—During 1899 a quarter section was added to the running shed & a half section to the freight car repair shop. Some additional sidings were put down in the yard & a macadamized team track road was laid to facilitate handling of freight.

On Jan. 2 we were officially informed that the plans for the hotel & station had not been definitely decided on. (Dec., '99, pg. 349.)

Snowflake Branch.—A regular passenger train service was inaugurated Dec. 15, when two mixed trains were put on, running west bound on Mondays & Fridays, & east bound on Tuesdays & Saturdays, connecting with the Pembina section passenger trains in both directions. (Dec., '99, pg. 349.)

The Deloraine Waskada branch has been given a precisely similar service to the Snowflake branch. (Dec., '99, pg. 349.)

Pilestone Branch Extension.—Up to the end of Dec. grading had been completed to about 25 miles west of Antler, & track had been laid to about 14 miles west of Antler. It was then the intention to continue track-laying as long as favorable weather lasted, & it was hoped to complete the extension to Carlyle before stopping track-laying. (Dec., '99, pg. 349.)

Crow's Nest Pass Ry. A large amount of work was done during 1899 under the supervision of M. H. Macleod, C.E., in sloping cuts, ballasting the line throughout, & in putting in concrete piers at stream crossings. The line is now in excellent shape. (Dec., '99, pg. 349.)

The press report crediting the Co. with the intention of building a branch from Bruce's Point, on the C.N.P. line, to Golden, is evidently incorrect. We are officially informed that there is no such place as Bruce's Point on the line.

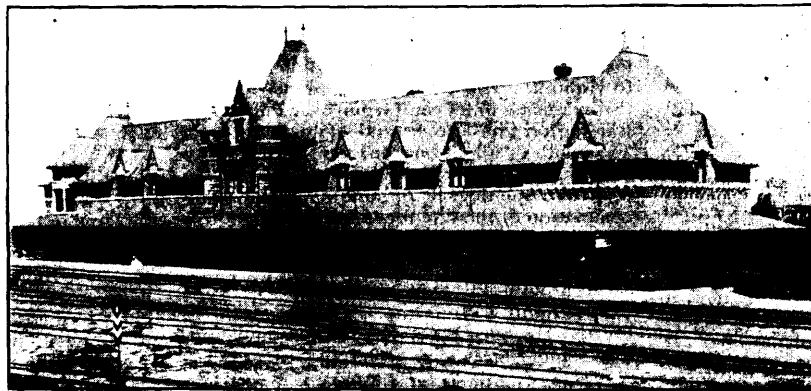
The tenders submitted for building the section of this line between Five Mile Point, near Nelson, & Balfour on Kootenay Lake, appear not to have been in proper form, & new tenders were therefore invited. It is understood the work will be carried out under the super-

intendence of W. F. Tye, C.E., who is also Manager of Construction of the C. & W. extension between West Robson & Midway. (Dec., '99, pg. 349.)

The ratepayers of Nelson have passed a by-law making arrangements with the Co. in connection with the establishment of a divisional point there. For a long time past the accommodation at Nelson has been totally inadequate to the extent of business done, & its enlargement was delayed waiting a decision as to whether or not Nelson would be the divisional point. Now that this has been decided on plans have been prepared, with estimates of the cost of the work, & as soon as these receive the authority of the Executive, the improvements will be proceeded with. (Dec., '99, p. 350.)

The North Star Mine Branch, from the Crow's Nest Pass Ry., is expected to be completed & ready for traffic by Jan. 25. The North Star Mining Co. will be ready to ship ore about that date, or shortly afterwards. (Nov., pg. 325.)

A Slocan Branch.—A Slocan City correspondent writes:—"There is a prospect of the C.P.R. building a branch line from here up the mountains to tap the many rich properties now being opened up on Ten Mile, Springer & Lemon Creeks. C. E. Perry, C.E., is now looking over the ground, & it is likely a staff of surveyors will be put to work shortly."



CANADIAN PACIFIC RAILWAY STATION AND HOTEL, MOOSE JAW, ASSA.

Columbia & Western Ry.—A Midway correspondent, writing late in Dec., stated that C.P.R. officials had given an assurance that the track would be laid from Greenwood to Midway early in the new year & that the station & side tracks would be completed by April. (Dec. '99, pg. 350.)

In the middle of Dec. about 200 representatives of the Boards of Trade of Victoria, Vancouver, New Westminster & Kootenay towns, with press representatives, were taken by the Co. on a complimentary trip over the C. & W. extension.

Dututh, South Shore & Atlantic. A heavy nor'easter, on Dec. 13, washed out 1,000 ft. of the track near Mission, on Keewana Bay. The early passenger train passed in safety, but a freight following, made up of an engine & 10 loaded cars, went into the lake. There were no fatalities.

Mineral Range Ry.—Our impression, as stated in our last issue, that the reference to this Co.'s extension in one of our contemporaries was in error as to mileage turns out to have been correct. We are officially informed that the Grosse Point extension from Arcadian Jct. to Arcadian mill is 9.47, & the branch to the Arcadian mine is 2 miles, a total of 11.47 miles. (Dec., '99, pg. 351.)

Minneapolis, St. Paul, & Sault Ste. Marie.—President Lowry & General Manager Pennington, of this line, were in Montreal recent-

ly in consultation with President Shaughnessy, of the C.P.R. It is said that a number of extensions of the "Soo" lines are contemplated, which will probably be commenced early in the spring. They will be mostly in Northern Dakota, where the Northern Pacific will invade "Soo" territory, & where the latter road will take steps to retaliate upon the N.P. The business men of Fargo, N.D., have made a proposition to the "Soo" line to extend north about 60 miles to that city.

The Minneapolis city council has granted the "Soo" road important & valuable terminal facilities in Minneapolis. The road has acquired all the private property necessary, & now the avenues from Sixth to Tenth avenues, north, between Second & Washington avenues, are vacated. Extensive trackage & freight facilities will be constructed.

Surveys, Construction, Betterment, &c.

Algoma Central.—A statement furnished by the management gives 24 miles as being operated, & 40 miles under construction. (Nov., '99, pg. 325.)

Bellingham Bay & British Columbia.—It is said contracts are about to be let for an extension from Sumas, Wash., on the International boundary, to Boulder, 16 1/2 miles.

Buffalo, N.Y., Union Station.—The Common Council has approved a proposition to grant the Hamburg canal property in Buffalo to M. J. Burke, in consideration of his agreeing to erect thereon a Union Station, at a cost of not less than \$1,500,000, & to allow the station to be used for passenger traffic by all railway companies now or hereafter running into Buffalo, without discrimination, & upon fair & equitable terms. The site upon which the station is to be built is bounded by Main, Washington & Scott streets, & the lands of the N.Y. Central R.R. The station must be ready for occupation within two years after the formal transfer of the property takes place.

Canada Atlantic.—The new freight buildings & offices at Ottawa are almost ready for occupation. The work of trestle filling along the line is progressing rapidly, the only trestles that are not filled being the Arnprior & Nepean ones. A station is being built at Golden Lake. A number of improvements will be made at Depot Harbor during the winter. It is proposed to considerably extend the yards & to add to the docks, thus providing greater wharfage capacity than is available at present.

Canadian Northern.—On Jan. 2 we were officially informed that track had been laid to 64 miles northwest of Cowan, which was the terminus in 1898. The extension is now 11 miles north of Birch River & within a few miles of Bell River. It was expected that track laying would have to be stopped in a few days thereafter, owing to weather conditions.

On the Gilbert Plains branch from Dauphin, 7 miles of track had been laid & it was doubtful if the balance of the grading would be laid before spring.

An addition is being built to the round house at Dauphin to be used as a repair shop. (Dec., '99, pg. 351.)

Cunso & Louisburg.—We are informed that good progress is being made with the location surveys. A staff has been at work recently sounding & boring the bottom of the

River Inhabitants, at McCarthy's Ferry, for the foundation of a bridge there. Tenders have been asked for the construction & equipment of the line from the Strait of Canso to Louisburg, with a branch from the main line to Arichat, construction on the first section of 30 miles from the Strait to St. Peters to be commenced early in Feb. The bridge over River Inhabitants will be about 800 ft. long, with 2 centre spans of 200 ft. each, & will be the largest bridge on the main line. The next at St. Peters will be a drawbridge 100 ft. span.

The line as projected from Port Hawkesbury to Louisburg will be about 86 miles long. We are informed that there is no connection between it & the Cape Breton Extension Ry. scheme, & that the Vanderbilt interests have nothing to do with it. Louisburg is the most easterly port in N.S., & is said to have a well sheltered harbor, which does not freeze over in winter. A gentleman connected with the project has furnished the following information:—"In connection with the railway project, a fleet of ocean greyhounds, equaling in speed such ships as the Oceanic & the Kaiser Wilhelm de Grosse, is to be put into service between the Nova Scotia ports & Liverpool. The distance from Louisburg to Liverpool is given as 2,240 miles. Steamers of the speed of the vessels mentioned could cover the route in about four days, & the railway run to New York would be covered in about 40 hours, while Boston could be reached in about 24 hours, or five days from Liverpool. If mail can be landed in Boston in five days from Liverpool it follows that passengers will be attracted by this route. The best time from Liverpool to Boston now is seven days. Boston receives most of her European mail via New York, & most of it is despatched that way. The consequent rehandling of mail at New York causes a delay of several hours. From Port Hawkesbury connection will be made via the Intercolonial Ry. with St. John, & thence by the C.P.R. & the Maine Central to New England points & to New York."

A Cape Breton paper thinks the railway will secure good local traffic, as some of the best fishing villages will be served by it, & it is anticipated that fresh fish establishments will be started on the opening of the line. It will traverse a number of good agricultural districts, & there are excellent prospects along the route for coal, iron, & manganese. (Nov., '99, pg. 325.)

Central Ontario.—In reference to the extension of this line from Ormsby, 5 miles from

the northern terminus at Coe Hill, to Bancroft, about 21 miles, we are unofficially informed that the contractor's engineer states that 16 miles have been graded ready for track laying & that rock work will be gone on with throughout the winter. The contract requires the extension completed by Oct. 1 next, but it is expected it will be in operation by June 1. Track laying would have been completed over the first half of the extension before now but for delay in securing ties. (July, '99, pg. 209.)

Coast Ry. of Nova Scotia.—President Robertson has been in Halifax in negotiation with the Provincial Government in regard to the renewal of the contract between the Government & the Co. referring to construction of this line. We are advised that it is expected the negotiations will result successfully & that the necessary arrangements will be completed at a meeting of the Executive Council to be held shortly & previous to the convening of the Legislature.

A press report recently stated that in view of the Nova Scotia Southern Ry. being under construction from New Germany to Shelburne, with the intention of connecting with the Coast Ry. at the latter place, it was not likely that the Coast Ry. would be built beyond Shelburne. We are informed that under the contract with the N.S. Government the Coast Ry. is to be built to Lockport, which is 20 miles beyond Shelburne, & the charter applies to a railway from Yarmouth to Halifax, continuing along the shore entirely; while the N.S.S. Ry. starts at Shelburne running in a westerly direction through the northern part of the counties of Queens & Lunenburg to New Germany on the N.S. Central Railway, with the stated intention to be ultimately extended to Halifax. The Coast Ry. is about to open the extension of its road from East Pubnico to Barrington Passage, a total of 50 miles from Yarmouth or about one quarter of the entire distance to Halifax, which is quite a factor, & gives some degree of hope as to the early completion of the line for the entire distance. (Dec. '99, pg. 351.)

The Cumberland Ry. & Coal Co. has built an up-to-date station at Springhill Mines, N.S.

Esquimalt & Nanaimo.—The extension to Oyster Harbor, B.C., has been completed, also the car ferry slip. (Oct. '99, pg. 294.)

Great Northern of Canada.—A contract has been let for the erection of an elevator on the Louise embankment, near the customs house at Quebec, on a site granted by the Harbor Commissioners. The elevator will be

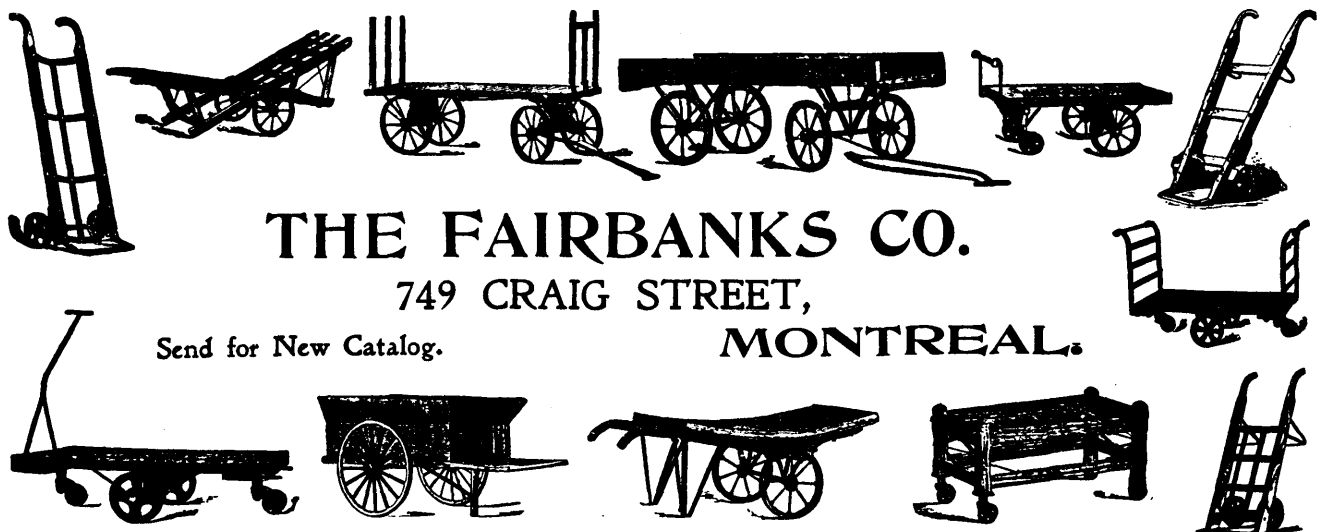
of 1,000,000 bush. capacity & will be constructed of wood and iron, in the most improved manner, with all modern equipment, & will be operated by electricity. Work is to commence by April 1 & it is hoped to have it completed by Aug. 1. The contractors for the extension of the railway hope to complete their work by the time the elevator is ready. During the past year they laid 60 miles of track, besides grading most of the balance, & there now remains only about 23 miles at intervals to be built in order to form a through line between Quebec & the west, as connection will be made at Hawkesbury with the Canada Atlantic. (Dec., '99, pg. 351.)

Great Northwest Central.—An engine house & stock yards are being erected at the end of the extension to Miniota, Man., which was formerly known as Parkisimo. (Nov., '99, pg. 326.)

Intercolonial.—A recent press despatch stated that work on the new station at Levis, Que., would be commenced almost immediately. On Dec. 29 we were officially informed that nothing had been decided in regard to the matter, which was under consideration by the Department of Railways at Ottawa.

Inverness & Richmond.—The charter of this Co. empowers it to build from some point on the Straits of Canso to Cheticamp, N.S., a distance of about 100 miles, passing through Port Hood, Mabou & Broad Cove on the way. For the present the Co. is confining its operations between Port Hastings & Broad Cove, the object being to reach the coal fields as soon as possible. Work was begun by Mackenzie, Mann & Co. late in July, & by Dec. 1 they had completed the grading & bridging, & laid the steel on 30 miles. This covers the distance between Port Hastings & two miles beyond Port Hood. The grading was only moderately heavy, but hard, keeping up the reputation of Cape Breton material. There are not many structures and none large, the heaviest being Long Point Bridge, 40 ft. span, & the Little Judique of 60 ft. span. Most of the waterways are spanned by structures built of the best English cement concrete with steel superstructures. Work is now being vigorously pushed from Port Hood to Broad Cove & the whole will be opened for traffic by Dec. 1 next, while the part between Port Hastings & Port Hood will be ready for traffic by July 1 next.

The question of terminals has not yet been considered, as the navigation of the straits during the winter months is an import-



ant factor in determining where it will be best to ship from all the year round. Careful observations will be made this winter to determine the actions of the currents in the ice floating through the straits, & to select as near as possible the point least affected by this ice. The points under observation will probably be Port Hastings, Hawkesbury & Cariboo Cove, immediately south & east of the Straits of Canso.

The land for the first 10 miles from Port Hastings is poor & stony, but from there north it gradually improves until excellent farming land is found between Port Hood & Cheticamp. Sheep farming is largely carried on & with the advent of the railway buyers from Montreal & Boston are already going through the district. As a result of this building of the road to Port Hood the coal mine at that point is now being pumped out, & mining will soon be extensively carried on. There is a fine seam of coal 7 ft. thick now well opened & the samples tested on the locomotives give evidence of its being an excellent steaming coal. (Nov., '99, pg. 326.)

Kent Northern, N.B.—Considerable improvements were made during the past year, a large number of ties being replaced, several miles being laid with new steel & a good deal of ballasting being done.

Manitoba & Southeastern.—It was expected to have track laid to War Road, Minn., 115 miles from Winnipeg, before Christmas, but this was not accomplished, owing to the unfavorable weather. All the grading to War Road is ready for the track, & we were informed on Jan. 2 that it was hoped to complete the tracklaying to that point by the middle of Jan. (Dec., '99, pg. 352.)

A meeting was recently held at Pelan, Minn., comprised of delegates from Roseau & Kitson counties, Minn., & Drayton, N.D., to consider the question of securing an extension of the Minnesota & Manitoba Ry., the subsidiary of the Manitoba & Southeastern, from War Road, Minn., westerly to Drayton on the west bank of the Red River, about 30 miles south of the International Boundary. One of the speakers, C. A. Moody, said he had the personal assurance of Mr. Mackenzie that the road would be built. The meeting unanimously passed a resolution in favor of the building of the line, & of granting free right of way for it. A committee was appointed to wait on Mackenzie, Mann & Co., in connection with the matter.

Northern Pacific.—A survey party has run a line for a proposed extension to Neepawa, Man. (Nov., '99, pg. 327.)

Ontario & Rainy River.—On Jan. 1 the ratepayers of Port Arthur almost unanimously passed a by-law granting the Co. \$50,000 in 4% 30 year debentures, & exempted it for 21 years from general taxation, the Co. agreeing that it, or any company that it may become amalgamated with, will make Port Arthur its Lake Superior terminus, will build a station & general offices between Arthur & Bay streets, will handle its freight traffic within a mile of Arthur St., & will build a round house, work shops, & a grain elevator of 1,000,000 bush. capacity within 1½ miles of Arthur St. The Co. has purchased considerable of the water front necessary for the lake portion of its terminals, & will likely complete the balance very soon.

On Jan. 9 we were informed as follows:—“Track has been laid west from Stanley 18 miles, & 10½ miles have been ballasted. With the exception of two small cuts, which will be finished in a week, 40 miles of grading are ready for the track, which we hope to get laid, & will if weather permits, before closing down for winter. For the next 40 miles grading is being done, & will be continued where practicable all winter, & this will be ready for track early next season.”

A Minnesota despatch says that the Minne-

sota & Ontario Bridge Co. has been incorporated with \$300,000 capital to build an International bridge over the Rainy River for this line, that the bridge will be a mile long, will cost \$200,000 & will be completed in a year, & that a bill of authorization is pending in the U.S. Congress.

Pontiac Pacific Jet.—The three miles, which have been completed on the Aylmer-Hull extension from Aylmer to Deschenes, have been approved by the Government inspector. The shareholders have approved of the contract given H. J. Beemer to build the Aylmer-Hull line, 9 miles, & of the issue of \$180,000 bonds as collateral security to him. (Dec., '99, pg. 353.)

Prince Edward Island.—The time for receiving tenders for the construction of about 10 miles of the Murray Harbor branch was extended to Dec. 26, 1899, & no announcement has been made as to what action, if any, has been taken. The section in question is to be completed by Aug. 1 next. (July, '99, pg. 210.)

Midland of Nova Scotia.—Now that this line has been practically completed between Windsor & Truro, with the exception of the bridge over the Schubencadie river, its further extension is being agitated. The Co.'s charter empowers it to continue the line from Truro to Brule, Colchester Co., a harbor on Northumberland Strait, & also from Windsor south to connect with the railways of the Atlantic coast. It is urged that the construction of an extension to Brule would be a great advantage for Prince Edward Island traffic. About the middle of the century what is said to have been most satisfactory & very regular communication was in effect between Charlottetown, P.E.I., & Brule Harbor. From Charlottetown to Halifax by way of Pictou is 170 miles, while by way of Brule it would only be 110 miles, & on the through route to Yarmouth there would be a saving of about 110 miles, provided the Midland is also extended south from Windsor to connect with the line now being built by the N.S. Southern Ry. from New Germany to Shelburne. (Dec., '99, pg. 352.)

Ottawa & New York.—A Cornwall, Ont., despatch of Dec. 16 says: “The Degnon, McLean Co. has closed down its works here for the winter. This year it has built a new pier on the site of the one that collapsed last year. This pier has been sunk by pneumatic caissons to bedrock, some 20 or 30 ft. below the river bottom. The pier, which remained standing under the end of the sole remaining span of the South bridge, has also been taken down & similarly rebuilt. Next spring it is understood that the D. McL. Co. will strengthen the piers of the big cantilever bridge over the North Channel. One of these piers will be reproped with huge blocks of stones, which will protect it against the action of the ice. The other pier will be surrounded with a caisson of steel, which will be filled with concrete. The small pier on the canal bank will be taken down & rebuilt, as the Co. is taking every precaution to make the bridge safe & strong.”

The Rutland-Canadian R.R. is being built from Burlington, Vt., to Rouse's Point, N.Y., & Noyan, Que., a distance of 45 miles, the portion in Canada being constructed under the charter of the Rutland & Noyan Ry. Co. The grading has been completed, with the exception of about 6 miles of rock excavation & of rubble embankment in the lake. To Dec. 31 18 miles of track had been laid, 14½ in Vermont & 3½ in Canada, in unconnected sections. The maximum grade outside of yard limits is 1° 30'; the maximum grade in the direction of the principal traffic is 0.57%, which is for only a short distance & is laid with 80 lbs. steel. The principal stations are at Burlington, South Hero, Grand Isle, North Hero, Isle la Motte, Alburg, Vt., & Noyan, Que. (July, '99, pg. 210.)

At Rouse's Point the Central Vermont owns the east end of a bridge which crosses Lake Champlain from the Vermont to the New York shore, while the Ogdensburg & Lake Champlain, which is controlled by the Rutland Ry. Co., owns the west end of the bridge to the center of the draw. On the night of Dec. 23 100 men were put at work by the Central Vermont laying track from the east end of the draw to the New York end. At the same time the Rutland Co. put on a force of men laying from its half of the bridge. To prevent the Rutland people from continuing their work, the Central people chained a heavy locomotive to the track, but the Rutland attached three engines to the Central locomotive, broke the chain which held it, & hauled it into their roundhouse at Rouse's Point. When the Central Vermont workmen quit work for the night, the Rutland officials put a force of men to work tearing up the track laid by the Central workmen. This resulted in a free fight, in which one man was thrown into the lake & another knocked insensible with a plank. At last accounts the difficulty had not been settled. A Plattsburg despatch of Dec. 27 said: “The Rutland road has been victorious so far, & its employes are rapidly completing the spur of the new drawbridge, which will connect its bridge with its tracks on the Alburgh, Vermont, shore. The Rutland still retains possession of the engine captured from the Central Vermont. The next move of the C. V. people is awaited with interest. Its tracks which were torn up, have been re-laid, & traffic over the old bridge has been resumed.”

Shore Line, N.S.—It is said a steel draw bridge, 130 ft. over all, will be built over the Lancaster River at Musquash.

Spokane Falls & Northern.—The new passenger station at Spokane, Wash., proposed by the Great Northern, will be on the island between Washington & Howard Sts. Access will be made to it by a steel bridge on Washington St. & another steel bridge will connect the structure with the Howard St. bridge across the south channel of the river. The station is to be 350 ft. long & 50 ft. wide & 2 stories high. The 1st floor will include the waiting rooms, ticket office, baggage rooms, etc., while the 2nd will be given up to the offices of the S.F. & N. & Great Northern. The present S.F. & N. station will be abandoned & the present Union station will be given over exclusively to the O. R. & N. It is understood that the freight shed will be about 50x600 ft.—Railroad Gazette.

Toronto, Hamilton & Buffalo.—Owing to the increased freight business of this Co. & the C.P.R. at Hamilton, an extension of about 150 ft. to the Hamilton freight shed is contemplated. On Dec. 21 we were officially advised that the matter had not been definitely decided, but it was expected to be settled at an early date. The engine house at Hamilton is also expected to be doubled in size, to accommodate the increased number of locomotives purchased during 1899. (Dec., '99, pg. 353.)

The Victoria & Sidney Ry. has asked tenders for building a wharf to replace the old one at Sidney, B.C. A spur is being built from the main line to the wharf.

Elevator at Meaford, Ont.—Since pg. 6 of this issue went to press the Botsford-Jenks Co. of Port Huron, Mich., advise us that consequent on the passing by the Meaford ratepayers of a by-law granting a bonus of \$25,000, they will build at Meaford a modern fast elevator that will handle grain as quickly as any elevator on the lakes & will have a storage capacity of about 600,000 bush. They will commence work early in the spring & expect to have the elevator ready for business by Aug. 1.

Railway Equipment Notes.

The Dominion Iron & Steel Co. has ordered 120 flat cars from Rhodes Curry & Co., Amherst, N.S.

Steel, Peech & Tozer, of Sheffield, Eng., who are represented in Canada by Jas. Hulton & Co., Montreal, have received a large contract for axles for the Belgian State railways.

Owing to large orders from the Russian government, the Westinghouse Air Brake Co. has decided to increase its plant in St. Petersburg to twice its present size. The Westinghouse air brakes have been universally adopted in Russia, & an Imperial decree recently issued orders that all cars on government or private railways be equipped with Westinghouse air brake apparatus.

During Dec. an order was placed for the Intercolonial with Rhodes Curry & Co., of Amherst, N.S., for 275 box cars & other orders were placed for 225 box cars. There were received at Moncton, during Dec., 30 cars from Rhodes Curry & Co., comprising refrigerator & flat cars. Two new engines were turned out of the Moncton shops during Dec. & 2 passenger engines were received from outside.

The Canada Atlantic built about 400 box cars at its Ottawa shops last year, also a number of refrigerator cars. A report having been circulated in the middle of Dec. that the shops were being shut down as a result of the acceptance by the Montreal Harbor Commissioners of the proposal of the Connors elevator syndicate, General Manager Chamberlain said: "The reason why the car shops have been temporarily closed is not

C. P. R. LANDS.

The Canadian Pacific Railway lands consist of the odd-numbered sections along the Main Line and Branches, and in Northern Alberta and the Lake Dauphin District. The Railway Lands are for sale at the various agencies of the company in Manitoba and the North-West Territories at the following prices:

Lands in the Province of Manitoba average \$3 to \$6 an acre.

Lands in Assiniboia, east of the 3rd meridian, average \$3 to \$4 an acre.

Lands west of the 3rd meridian, including the Calgary District, generally \$3 per acre.

Lands in Northern Alberta and the Lake Dauphin District, \$3 per acre.

TERMS OF PAYMENT.

The aggregate amount of purchase money and interest is divided into ten instalments, as shown in the table below; the first to be paid at the time of purchase, the second two years from the date of purchase, the third in three years, and so on.

Interest on the outstanding purchase money is payable in one year, except in case of an actual settler who breaks up at least one-sixteenth of the land within that time. No rebate of interest is allowed on hay or grazing lands.

The following table shows the amount of the annual instalments on a quarter section of 160 acres at different prices under the new conditions:

160 acres at \$3.00 per acre, 1st instalment \$71.90, and nine equal instalments of \$60.

160 acres at \$3.50 per acre, 1st instalment \$83.90, and nine equal instalments of \$70.

160 acres at \$4.00 per acre, 1st instalment \$95.85, and nine equal instalments of \$80.

160 acres at \$4.50 per acre, 1st instalment \$107.85, and nine equal instalments of \$90.

160 acres at \$5.00 per acre, 1st instalment \$119.85, and nine equal instalments of \$100.

160 acres at \$5.50 per acre, 1st instalment \$131.80, and nine equal instalments of \$110.

160 acres at \$6.00 per acre, 1st instalment \$143.80, and nine equal instalments of \$120.

DISCOUNT FOR CASH. If land is paid for in full at time of purchase, a reduction from price will be allowed equal to ten per cent. of the amount paid in excess of the usual cash instalment.

Purchasers paying any instalment, or more, one full year before the date of maturity, will be allowed a discount on the amount of the instalment or instalments so paid at the rate of six per cent. per annum.

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

Write for maps and full particulars.

L. A. HAMILTON, Land Commissioner,
F. T. CRIFFIN, - Asst. Land Commissioner,
WINNIPEG.

on account of the elevator scheme at all. We have run out of car sills & wheels, & as soon as we receive the necessary supply we will resume operations."

A novel method of ventilating passenger cars & clearing them of smoke has been introduced on several of the smoking cars on the Philadelphia & Reading. The device consists of three 2 bladed fans suspended from the top

of the ventilators & operated by a small air motor located upon the roof of the car. The motion of the car operates the air motor, its speed being regulated entirely by the speed of the train, & that in turn operates the fans upon the inside of the car, keeping up a continuous air circulation & forcing the smoke & foul air out through the ventilators. The fans are so arranged that they can be disconnect-

ENAMELED IRON PLATES

For Doors, etc., in Stations, Hotels, Offices, etc., carried in Stock for Prompt Delivery.

Any of these Plates can be shipped on the day an order is received.

SMOKING ROOM

Size 23 x 3½ inches. Oblong, fancy ends, white ground, blue letters, lined & tipped:

Agent's Office.	Waiting Room.
Express Office.	General Waiting Room.
Freight Office.	Ladies' Waiting Room.
General Offices.	Men's Waiting Room.
Private Office.	Dining Room.
Ticket Office.	Lunch Room.
Telegraph Office.	Restaurant.
Baggage Room.	Ladies' Toilet.
Smoking Room.	Men's Toilet.
Smoking Prohibited.	No Admittance.
Trespassers Prosecuted.	

STICK NO BILLS

Size 18 x 3½ inches. Oblong, square ends, white ground, blue letters, lined & tipped.

Furnished Apartments. Stick no Bills.
Please Shut the Door.



Oval, size 2 x 3 inches, white ground, blue letters, tipped, hollowed, lettered **Push, Pull**, as above.

Oblong, square ends, size 3 x 1½ inches, white ground, blue letters, tipped, lettered **Push, Pull**, as above.

Perpendicular, square ends, size 12 x 3 inches, white ground, blue letters, lined & tipped, lettered perpendicularly, **Push, Pull**.

Oblong, square ends, size 12 x 3 inches, white ground, blue letters, lined and tipped, lettered horizontally, **Push, Pull**.

Oblong, fancy ends, size 3 x 1½ inches, white ground, blue letters, lined and tipped, lettered **Push, Pull**.

NO ADMITTANCE

Size 10 x 2½ inches. Oblong, oval ends, white ground, blue letters, lined & tipped, hollowed:

Bar Room.	Men.
Luggage Room.	Private.
Office.	No Admittance.
Refreshments.	No Road.
Exit.	Boarding House.
Fire Escape.	Private Board.
Lavatory.	Dressmaking.
Ladies.	Fresh to Day.
Women.	Teas Provided.
Gentlemen.	Please Shut the Gate.

Size 14 x 3 inches. Oblong, oval ends, white ground, blue letters, lined and tipped.

No Admittance.

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ed from the motor by a very simple process. Beside clearing the cars of smoke & foul air, the fans tend to keep the cars cool in summer. The device is said to have originated on this line.--Railway Review.

Canadian Pacific Equipment.

A considerable amount of work is being done in remodelling the older portion of the passenger equipment. In the sleepers the smoking rooms are being converted from open to closed, nickelene washstands are replacing the old style marble washstands, the interiors are being redecorated & the seats covered with new plush, & the cars are being equipped with wide vestibules & steel platforms. Four parlor cars are being remodelled by cutting out one of the observation rooms & making the main room larger, & the interiors are being redecorated & fitted with wicker chairs, with arms covered with plush. A recent press report stated that all buffet cars were being converted into 1st class coaches & smokers. This is incorrect. Four first class coaches, 420 to 423 inclusive, are being remodelled, the buffet compartment being taken out & converted into a smoking room, & the interiors are being redecorated. These are all the 1st class cars with buffets that it is intended to remodel at present.

During Dec. 238 new standard 30 ton box cars were turned out of the Perth shops, & 20 30 ton flat cars were converted into box cars. Orders have been given to build the following cars at Perth, all of which are to be completed by June 1:—100 standard 30 ton flat cars, 200 standard 30 ton box cars, 75 standard 30 ton refrigerator cars for freight service, & 25 standard 30 ton refrigerator cars for passenger service.

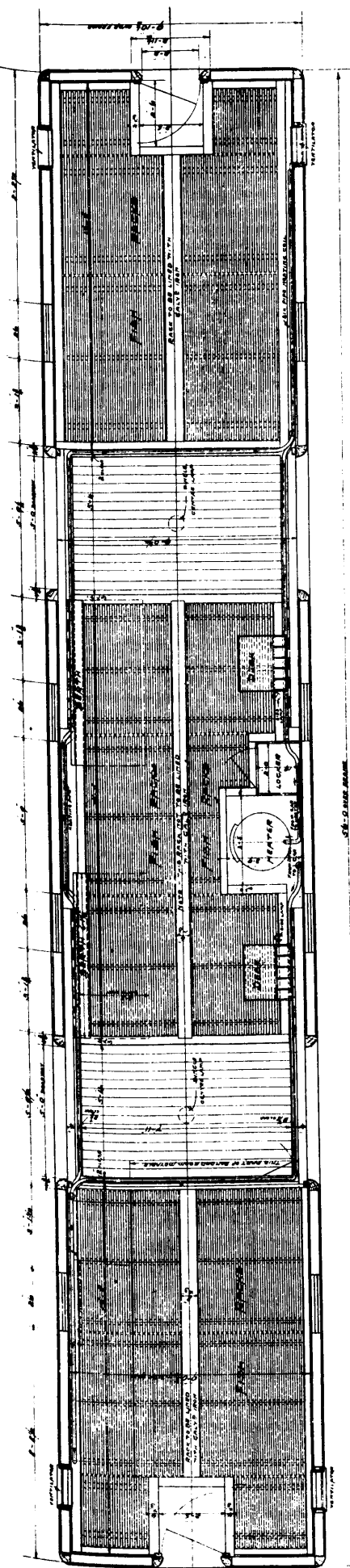
Our last issue contained an extended description of the handsome trains recently placed on the Montreal Ottawa run, together with floor plans of the parlor cars & of the combination 2nd class & smoking cars. On this page are floor plans of the 1st class cars & of the baggage & express cars.

A recent Montreal press item stated that the Co. had placed an order at Dayton, Ohio, for building 200 box cars. We are informed that this is an error, no such order having been given.

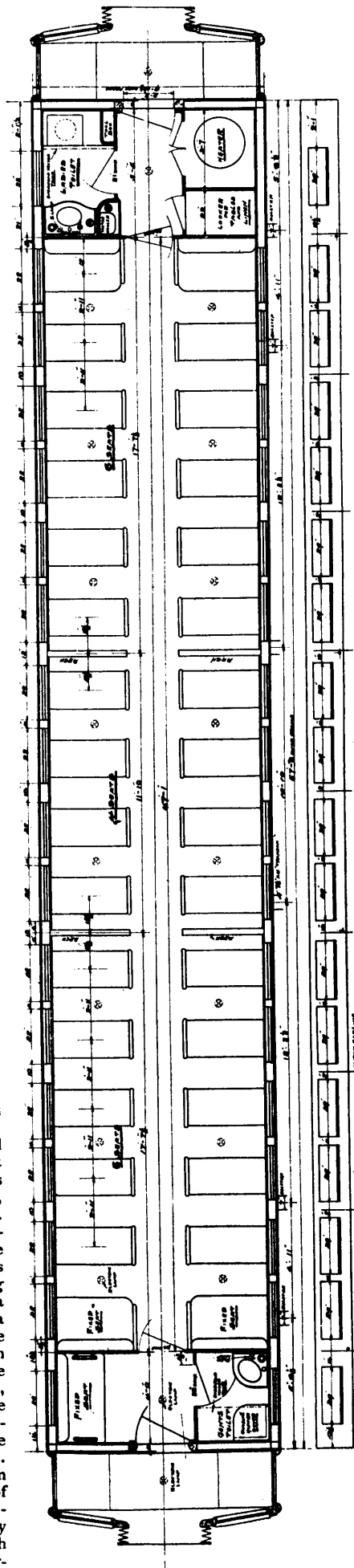
It is stated, but not officially confirmed, that the Minneapolis, St. Paul & Sault Ste. Marie is considering ordering 250 ore cars. This Co. has ordered a compound decapod locomotive as a sample from the Baldwin Locomotive Works.

Grand Trunk Equipment.

During Dec. the Co. received 2 compound consolidation locomotives, nos. 956 & 957, from the Baldwin works. The Co.'s Montreal shops turned out 5 1st class passenger cars & 25 standard box cars. The passenger cars form part of what is known as the 800 series, & are of the wide vestibule order, 68 ft. long, with 4-wheeled trucks. They are equipped with Westinghouse quick action triple brakes, & air signals. A special feature is the steel platform, with an adjustable covering over the steps, making the whole platform a vestibule. The vestibule is lighted with a powerful light. The total weight of these coaches is 72,100 lbs. each, & they have each a seating capacity for 72 passengers. There are 20 windows on each side of the cars, finished outside & inside in Gothic architecture in oak & mahogany combination. The interiors are finished in quartered oak, & are extremely handsome. The seats are G.T. standard reversible pattern, upholstered in crimson plush. The other trimmings are of exquisite designs in bronze. A large & comfortable smoking room with seating capacity for 8 is provided. The saloons are fitted with the latest devices to make them as near per-



FLOOR PLAN CANADIAN PACIFIC RAILWAY BAGGAGE AND EXPRESS CARS.



FLOOR PLAN AND ELEVATION CANADIAN PACIFIC RAILWAY FIRST CLASS PASSENGER CAR.

fection as possible. The aisles are carpeted with Brussels, & linoleum covers the floor in the smoking compartment. The closets are self-flushing & separate lavatories are provided for ladies. The cars are heated by steam, & the ventilating arrangements are ample & satisfactory. The tout ensemble of these handsome coaches is one of elegance & everything about them wears an air of ease & comfort. Two of the coaches have been put on the Montreal-Toronto run, one on the Ottawa line, one on the Massena Springs branch & one on the eastern division between Montreal & Island Pond.

Safety Appliances Time Extension.

The time fixed by the U.S. Interstate Commerce Commission for the expiration of the period in which railways may equip their cars with couplers & brakes is Aug. 1, 1900, being an extension of 7 months. One of the arguments presented by the railways in making their request for an extension was the fact that every car that can possibly be of use in freight service is now running. With every road overrun with freight, as is the case at present, it is an injury to shippers to send to the shop even a single car unless repairs are absolutely necessary. Facts were also presented showing the pressure of orders on the manufacturers of couplers. The shops are well filled with orders for couplers & brakes to supply the 100,000 cars which are now being built, & this alone taxes their capacity. The decision of the Commission, prepared by Mr. Prouty, admits the claims of the railways, but remarks that some roads, including 3 or 4 important ones, have not tried to comply with the law. Taking the roads as a whole, however, the conclusion is reached that if as much progress is made during the next 6 months as has been made during the last 6 substantially all of the cars used in interstate commerce will be equipped with couplers. Mr. Prouty doubts the claims of some roads which say that they cannot get material fast enough; he seems to think that the trouble is due to their insistence on one particular make of coupler. He also refuses to admit that delay will be caused by the difficulty of getting cars home. The Louisville & Nashville equipped 4,000 cars in 6 months, & others ought to be able to do as well. The Erie asked for an extension of time for itself & for all other roads doing interstate business. The Commission doubts the propriety of granting relief to a road which is too indifferent to ask for it, but, as a just course toward such roads might injure others not at fault, it was finally decided to

grant a general extension. The existence of large numbers of cars that have M.C.B. couplers which, by reason of defective unlocking devices, do not comply with the law, is mentioned as a reason for not extending the time. Fifty-one roads had on Dec. 1 equipped more than 95% of their cars with automatic couplers.—*Railroad Gazette.*

RAILWAY APPOINTMENTS, Etc.

Alberta Railway & Coal Co.—As foreshadowed in our Nov. issue, P. L. Naismith, formerly Superintendent of Railway & Shipping for the Sydney & Louisburg Ry., has been appointed Manager of the A. R. & C. Co., & of the Great Falls & Canada Ry. Co., succeeding W. D. Barclay, who resigned some time ago. President Galt has issued a circular announcing the appointment as taking effect Jan. 1.

C.P.R.—J. T. Arundel has been appointed Car Service Agent of the Western Division, vice A. Allan, assigned to other important duties in the General Superintendent's Office.

R. Barnwell has been appointed Fuel Clerk of the Western Division, with office at Winnipeg, & returns & communications about the handling & distribution of fuel, formerly addressed to the Car Service Agent, will hereafter be sent to the Fuel Clerk.

Central Vermont.—C. E. Fuller having resigned, W. Hassman has been appointed Superintendent of Motive Power. Office at St. Albans, Vt. There is no truth in the report which has been going the rounds of the press stating that W. D. Robb, Master Mechanic of the G.T.R. at Toronto, has received an appointment on the C.V.

J. N. Clark, Traffic Representative at St. Alban's, Vt., has been transferred to Montreal.

Chicago & Grand Trunk.—See under head of "C. & G. T. Finances," page 5.

Dominion Atlantic.—On Jan. 1 the following changes were made:—W. Fraser, General Freight Agent, to be Assistant Superintendent, with headquarters at Kentville. F. G. J. Comeau, Station Master at Yarmouth, to be General Freight Agent, with headquarters at Halifax. D. McLellan, Ticket Agent at Annapolis, to succeed Mr. Comeau as Station Master at Yarmouth. F. H. Armstrong, Acting General Passenger Agent, to be General Passenger Agent, with headquarters at Kentville.

Grand Trunk.—C. H. Bevington has been appointed Trainmaster, 3rd district, and 2nd district between Island Pond, Vt., and Richmond, Que. Office, Island Pond, Vt.

X. H. Cornell, heretofore Chief Train Dispatcher of the 26th district, has been appointed Trainmaster 4th and 5th districts, also 2nd district between Montreal and Richmond, Vt., vice R. P. Dalton transferred to Western Division. Office, Bonaventure Station, Montreal. The office of Superintendent of Montreal Terminals is abolished.

R. P. Dalton, heretofore Trainmaster at Montreal, has been appointed to a similar position on the 26th district, including Battle Creek and Nichols yards & stations. W. J. Stinson has been appointed Chief Train Dispatcher of the 26th district, succeeding X. H. Cornell, promoted to be Trainmaster at Montreal.

W. Aird, Master Mechanic in charge of the Montreal work shops, having retired on account of advancing years, has been succeeded by A. G. Elvin.

T. McHattie, heretofore Acting Master Mechanic for the Eastern Division, has been appointed Master Mechanic for the Eastern Division, with headquarters at Montreal.

S. Walker, for 17 years Foreman at the Point St. Charles shops, has been appointed General Foreman of the Dominion Bridge Co.'s works at Lachine.

D. E. Carruthers has been appointed Contracting Freight Agent at Quebec.

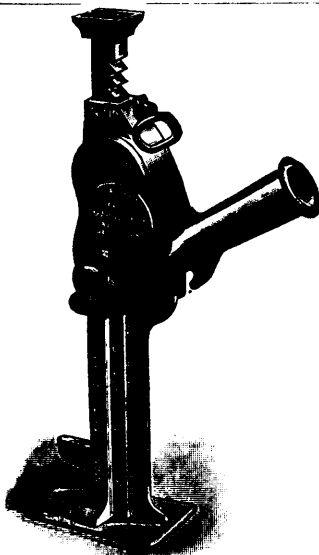
A press report stating that Jas. Kane, heretofore Roadmaster over the North Hastings division, has been transferred to Belleville is incorrect. No person of that name has been Roadmaster on the division named.

Lake Erie & Detroit River.—E. A. Drake has been appointed Travelling Freight & Passenger Agent, vice L. E. Tillson assigned to other duties. Office at Chatham, Ont.

New York Central & Hudson River.—The following appointments took effect Jan. 1:—E. J. Richards to be Chief Assistant General Passenger Agent, with office at Grand Central Station, N.Y.; F. J. Wolfe to be Assistant General Passenger Agent, with office at Grand Central Station; W. M. Skinner to be Acting General Baggage Agent, with office at Albany, vice F. J. Wolfe, promoted; A. E. Brainard to be General Agent Passenger Department, with office at Albany, vice F. J. Wolfe, promoted.

Northern Pacific.—J. O. McMullen, Travelling Freight Agent on the Western Division, has been appointed General Agent of the Co. at Vancouver, B.C.

Spokane Falls & Northern.—Jas. N. Hill has been elected President, vice J. J. Hill resigned. F. W. Bobbett has been elected Vice-President, vice C. Shields resigned to accept service with the Virginia & Southwestern Ry. F. S. Forest has been appointed Superintendent



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in charge of operation & maintenance of the property.

United Counties.—Following is the new organization: President, H. A. Hodge; Vice-President & Treasurer, F. D. White; other directors, J. M. Greenshields & L. F. Morrison; General Traffic Manager, A. Ouellette; Superintendent, R. A. Trudeau; Auditor, P. J. Evans. General offices at St. Hyacinthe, Que.

Wabash.—On Jan. 1 a new division, the Detroit, was established, comprising the line between Detroit, Mich., & Chicago, the Helmer branch & Montpelier yard. The Detroit division is placed under the superintendency of G. M. Burns, with headquarters in Detroit. Since Mar., 1896, Mr. Burns has been in the Wabash general offices in St. Louis, filling the dual position of Fuel Agent & Secretary to Vice-President & General Manager Ramsey. Division Superintendent Burns has issued his first circular, announcing that until further notice the jurisdiction of G. S. McKee, Master Mechanic; E. K. Woodward, Resident Engineer; A. B. Adams, General Roadmaster, & W. S. Danes, Superintendent of Bridges & Building of the Eastern Division, will be extended over the Detroit division & these officers will report & receive instructions from the Detroit office in regard to matters relating to the Detroit division.

Mainly About People.

Sir Wm. & Lady Van Horne gave a brilliant ball, at their beautiful residence in Montreal, Dec. 27.

R. A. McKay, foreman of the M.C.R. car shops at St. Thomas, Ont., died Dec. 23, aged 71.

R. P. Fitzgerald, one of the largest vessel owners on the great lakes, died at Milwaukee, Wis., Jan. 9, aged 75.

C. W. Vaughan, formerly of the G.T.R., has been appointed Master Mechanic at Newark, Ohio, on the Baltimore & Ohio Ry.

G. H. Ham, of the C. P. R. Advertising Department, slipped while getting out of his bath, Jan. 7, & broke a couple of ribs.

A. MacMurphy, one of the local solicitors of the C.P.R. at Toronto, was married at Port Hope Dec. 27, to Miss H. J. S. Craick.

C. N. Armstrong, of the Atlantic & Lake Superior Ry., has a son, Chas. I., a lieutenant in E company of the Canadian contingent.

J. B. Griffith, ex-manager of the Hamilton St. Ry., has been presented with a handsome travelling outfit & an address by the employees.

Lieut. A. C. Ledyard, who was recently killed in an uprising in Negros, was a son of H. B. Ledyard, President of the Michigan Central R.R.

Miss Mabel L. Pease, only daughter of the District Passenger Agent of the G.T.R. at Montreal, was married, Jan. 1, to E. G. Hicks, of Minneapolis., Minn.

F. R. F. Brown, formerly Mechanical Superintendent of the I.C.R. at Moncton, N.B., has received an appointment from the Dominion Steel Co. at Sydney, N.S.

J. A. Villeneuve, Treasurer of the R. & O. N. Co., was recently presented with an appropriate token of the esteem in which he is held by his fellow employees.

C. McGrath, Land Commissioner of the Alberta Ry. & Coal Co. at Lethbridge, was married in Montreal, Dec. 19, to Miss Mabel Galt, daughter of the late Sir A. T. Galt.

B. B. Peters, formerly of the I.C.R. at Moncton, N.B., has been appointed Assistant New England Agent for the South Eastern Freight Association, with quarters at Providence, R.I.

Dr. E. H. Williams, senior partner of the Baldwin Locomotive Works, of Philadelphia, died at Santa Barbara, Cal., in Christmas week, of heart trouble. He was prominently connected with early railways in Wisconsin.

H. D. Lumsden, C.E., who spent most of last year in Manitoba looking after C.P.R. surveys & the construction of branch lines, was in Toronto with his family for Christmas & the New Year, & has returned to Winnipeg.

Lewis Blair, second son of the Minister of Railways, died suddenly at his father's house in Ottawa, Jan. 7. For the past 2 years he was Private Secretary to F. A. Heinze, of Montana, who built the Columbia & Western Ry. from West Robson to Rossland.

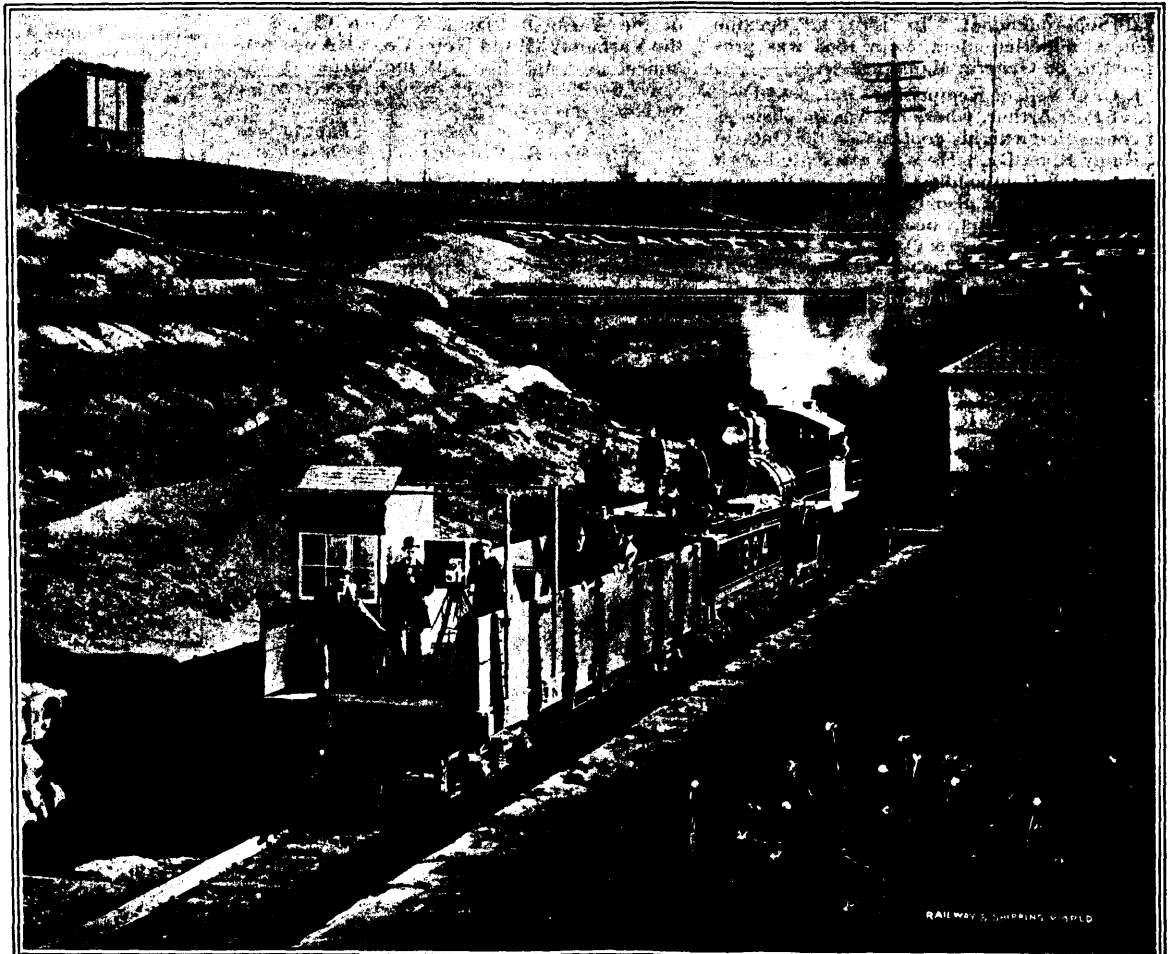
On retiring recently from the management of the C.P.R. Co.'s Telegraphs, C. R. Hosmer presented B. S. Jenkins, General Superintendent of Telegraphs at Winnipeg, with a gold watch & a chain of gold & platinum in remembrance of many years of business connection.

R. T. Lincoln & N. B. Ream, executors of the estate of the late G. M. Pullman, of Pullman car fame, have been allotted \$425,000 as compensation for their services. The widow's award was \$20,000, which will be applied to the erection of a monument in memory of her husband. The estate will figure up nearly \$14,000,000.

Captain Archibald Cox, of Maitland, N.S., who was well & favorably known to the ship-building community of that province 25 years ago, died in Montreal recently. He belonged to a family of shipowners & shipmasters, who were very prominent in their line, when Maitland was one of the most flourishing ship-building centres of N.S. Later on he was in business in Antwerp & Liverpool, but of late years had been residing with his daughter in Montreal.

Baron Adolphe Von Hugel, who died in Montreal, Dec. 20, of paralysis, aged 68, was a member of an old Bavarian titled family. He was born in Heidelberg, & came to Canada after a residence in Philadelphia & New York. About 35 years ago he became connected with the Midland Ry. as President, & lived in Port Hope, Ont. But the railway was not a paying institution under his management, & it fell into the hands of Senator Cox & others, who sold it to the G.T.R.

C. Shields, formerly of the Western Division of the C.P.R., who recently resigned the



OUTFIT USED IN TAKING FLASHLIGHT PHOTOGRAPH OF INTERIOR OF ST. CLAIR TUNNEL, GRAND TRUNK RAILWAY SYSTEM. SEE PAGE 15.

Vice-Presidency & General Managership of the Spokane Falls & Northern, has been appointed Vice-President & General Manager of the Virginia & Southwestern, which operates 118 miles & has 45 miles under construction. The line now operated runs from Looney Creek, Va., to Elizabethton, Tenn. An extension is being built from Elizabethton to Mountain City, Tenn. Mr. Shields will have charge of the operating & traffic departments, with headquarters at Bristol, Tenn.

Jno. Patterson, of Hamilton, Ont., is known as the "electric man" of that city, & in this field he has achieved great success. In the 80's he began to develop the electric undertakings which have since done so much for the city. In 1895 the electric line around the beach to Burlington was completed, & the next year Mr. Patterson organized the Cataract Power Co. to develop power at DeCew's Falls & transmit it to Hamilton. This company has now a capital of \$3,750,000 & controls the Hamilton Electric Light & Power Co., the Hamilton St. Ry. Co., the Hamilton & Dundas Electric Ry., the Hamilton Radial Electric Ry., & the Electric Power & Manufacturing Co., of Hamilton.

W. G. Collins, General Manager of the Chicago, Milwaukee & St. Paul, has resigned, to take effect Feb. 1, & it is understood that he will soon afterward go to Europe to remain for several months. He was born in Wisconsin Nov. 21, 1851, & began railway work in 1868 on the C.M. & St. P. From 1870 to 1873 he was with the Northern Pacific & the Canada Southern, but in 1873 he returned to the C.M. & St. P., on which road he steadily worked his way up until 1877, when he became Chief Train Despatcher & Superintendent of the River Division. This position he held until 1889, when he was made Assistant General Superintendent. In 1891 he became General Superintendent, & in 1898 was promoted to be General Manager.

J. C. O'Neil, of Kemptville, Ont., died Dec. 21, at Port Arthur, where he was on business in connection with his contract on the Ontario & Rainy River Ry. He was associated with Guy Campbell in building several sections on the C.P.R. They also built 10 miles of the Pontiac & Pacific Jct., near Quyon, a 10 mile section of the Ontario & Quebec, near Kemptville; 15 miles of the Quebec & Lake St. John; 20 miles of the Temiscouata; 15 miles of the New Glasgow branch of the Intercolonial, & the missing link in the Annapolis & Digby, in N.S. While associated with Geo. Ferguson, of Kemptville, deceased built several sections of the Ottawa, Arnprior & Parry Sound, & he also had contracts on the Crow's Nest Pass

Ry. He was owner of an extensive ranch in western Ontario.

W. J. Conners, head of the Montreal elevator syndicate, was born 42 years ago in Toronto. His father, P. Conners, was educated at St. Michael's College, Toronto, in the early forties, & was afterwards a mail conductor on a line of steamers running between Toronto & Montreal. W. J. acquired a seafaring taste on Lake Ontario; sailed on the Great Lakes for a number of years; was employed on the docks in Buffalo; was a stevedore & developed into a contractor & shipowner; employs during the season of navigation in Buffalo, Chicago, Milwaukee & Gladstone, Mich., about 6,000 men; owns two newspapers in Buffalo, the Courier & the Enquirer; is well known among lake shipping men; is regarded as a shrewd man of business & good at making a bargain; likes to get fair play & to give it; commands lots of money, but never advises other people to invest capital where he will not invest his own; thinks the Harbor Commissioners wanted to drive a hard bargain, but has tremendous faith in the elevator project for Montreal.—Montreal Herald.

Hon. L. E. Baker, President of the Yarmouth S.S. Co., was found dead in a sleeping car on its arrival at Boston from New York, Dec. 31. He was born at Yarmouth, N.S., in 1831, his ancestors having come from Massachusetts. From 1855 to 1864 he was in partnership with J. Young as general merchants & shipbuilders. He then engaged in business on his own account, & for many years was the most active & prominent business man in Yarmouth. Among the prominent positions which he held were the presidency of the Bank of Yarmouth & of the Yarmouth S.S. Co. He was also President of the Yarmouth Marine Railway Co., the Yarmouth Woollen Mill Co., of the Yarmouth Duck & Yarn Co., & of the Yarmouth Grand Hotel Co. He was prominent in connection with the Yarmouth Museum & Public Library, which was founded by him. He was married three times; his third wife, who survives him, is a daughter of the late G. B. Creighton, of Dartmouth, N.S. His daughter, the Hon. Mrs. Stopford, lives in England, & he has two sons, Prescott & Seymour. He had \$60,000 in life insurance.

Walter Shanley, C.E., who died at the St. Lawrence Hall, Montreal, Dec. 17, was born in Queen's County, Ireland, in 1819. Shortly after his arrival in Canada he was employed by the Government on the Welland & Beauharnois canals & was subsequently connected with important railway works. He was General Manager of the G.T. Railway from 1858 to

1862. His most important work as a railway contractor was the construction of the Hoosac tunnel in Massachusetts, one of the greatest engineering works of the century, on which he was engaged from 1860 to 1875. Since then he had been widely employed as a consulting engineer. At one time he was a prominent figure in Canadian politics. He sat in the old Parliament of Canada from 1863 to 1867, & was also a member of the 1st, 5th & 6th Parliaments after Confederation. He was a strong Conservative in politics, & was a close friend & associate of Sir Jno. Macdonald, Sir Geo. Cartier, & D'Arcy McGee. He was a delegate from Canada to the Detroit Trade Congress in 1864, with Jos. Howe & Jno. Young. For some years he was President of the Mechanics' Bank. He was buried at London, Ont.

Jas. Charlton, who on Jan. 1 retired from the general passenger & ticket agency of the Chicago & Alton, fitly bears the title of Nestor of his business in America. He has been a leading figure in passenger traffic circles for many years, & his retirement is viewed with regret. He has been in continuous railway service for 52 years. He was born in Bothal, Eng., in 1832, & took up railway work in 1847 as junior clerk in the freight department of the Newcastle & Carlisle Ry. He was later made chief clerk and then cashier of the same department. In 1857 he left England for Canada, where he entered the service of the Great Western Ry. as assistant to the Chief Clerk of the Audit Office, in charge of statistics & freight accounts. He later served consecutively as Chief Clerk, Auditor & General Passenger Agent of that road. In 1870 he went west as General Ticket & Passenger Agent of the North Missouri Railroad. In July, 1871, he entered upon his long & brilliant connection with the Chicago & Alton as General Passenger & Ticket Agent—a connection that is closed now only because of the exigencies of the reorganization which the new owners of that road are effecting.—Railway Review.

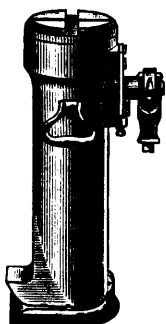
Granville C. Cuningham.

In a recent issue we announced that G. C. Cuningham, M.I.C.E., Managing Director of the City of Birmingham Tramway Co., had been appointed General Manager of the Central London Ry. The Tramway & Railway World has the following reference to him:—Mr. Cuningham, who was born in Edinburgh in 1847, acquired his profession of civil engineer there. Till 1870 he was engaged in connection with various railway, road, & water works in Scotland, & in that year he went to Honduras to take part in the surveys for the Honduras Ry. Operations had to be suspended on the outbreak of a war, & in 1871,

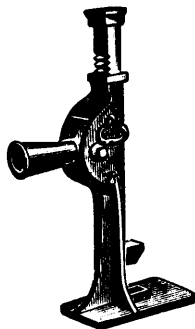
Norton's Ball Bearing Jacks.

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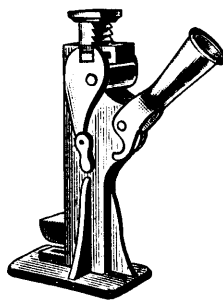
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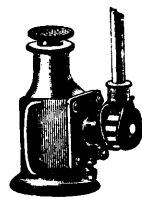
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10 Ton Automatic Lowering Jack.



15 Ton Track Jack.



8 Ton Jack.

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Hamilton, Ontario.

THE FIRSTBROOK BOX CO., LIMITED.

CROSS ARMS, TOP PINS,
AND SIDE BLOCKS,
TORONTO.

he went to Canada, where he was engaged in charge of railway construction work in various districts. Among his undertakings were the charge of an exploration & surveying party in Manitoba for the C.P.R., & engineer in charge of the Prince Edward Island Ry., & of the construction & maintenance of the harbors & lighthouses of that province. The study of railway law occupied his attention in the late seventies, & in 1882 he was appointed Chief Engineer of the Canada Southern Ry., where he carried out important works, including the construction of the docks & approaches for the ferry crossing conveying the trains over the Detroit River, & the surveys & selection of site for the cantilever bridge across the Niagara gorge. As a contractor he undertook the construction of an important branch line to connect with the bridge. From 1884 to 1886 he was assistant to the Manager of Construction of the Rocky Mountain division of the C.P.R., & spent two years among the mountains on construction work. It was there that he had the peculiar, not to say thrilling, experience of watching avalanches coming down the mountains, in order that he might determine the parts of the railway to be protected by avalanche sheds. After more contracting work he became city engineer of Toronto, & in that capacity he, in 1891, visited various places in the U.S. & reported on methods of tramway traction. On his recommendation the electric system was adopted. In 1892 he was appointed chief engineer for the conversion of the Montreal street railways to the electric system, & a year later he became manager as well as engineer. This system consists of 85 miles of track & runs about 250 cars per day. Mr. Cunningham held this position till 1897, when he came to Birmingham for the purpose of carrying out the conversion of the system there to electricity &

occupied the position of Managing Director of the Co. The well known dog in the manager policy of the municipality, however, effectively throttled the proposed improvements, but Mr. Cunningham reconstructed the cable tramway power station so that the cost of working was largely reduced, & made other improvements & managed the service so as to markedly increase the net earnings of the Company. Mr. Cunningham is a member of the Institution of Civil Engineers & of the Canadian Society of Civil Engineers. It will thus be seen that the Central London Ry Co. has in him secured a man of most varied experience in the profession, & that his great knowledge both of railway & tramway working should be of much benefit to the Co."

The G. T. R. Traffic Manager.

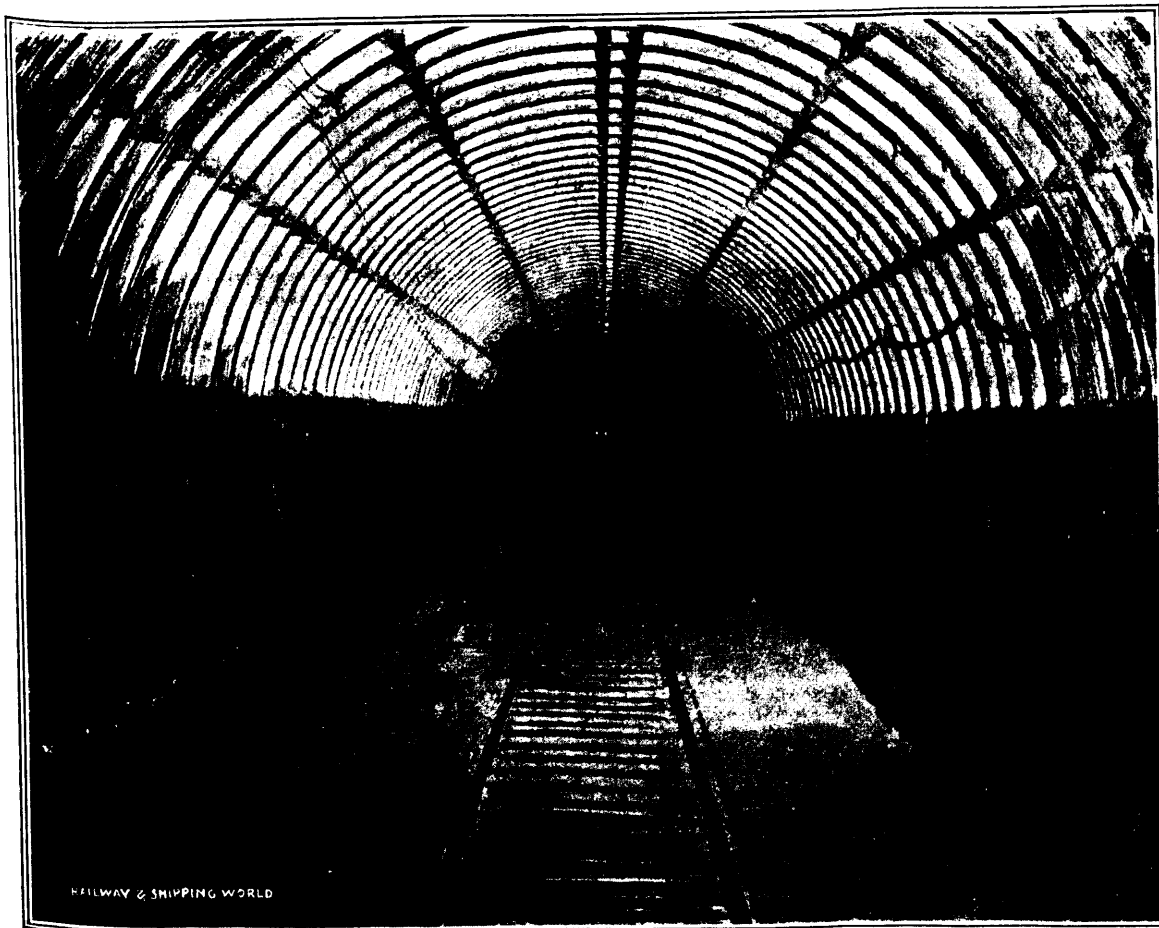
George Bell Reeve, whose portrait appears on page 1 of this issue, was born in Surrey, Eng., Oct. 23, 1840. He came to Canada in 1860, since May of which year he has continuously been in the service of the G.T.R. According to the official record reproduced by Morgan, he served in the capacity of Freight Clerk at Belleville until 1862, & as telegraph operator from 1862 to 1863, when he was appointed train despatcher, continuing in that position until 1865, when he became relieving agent. In 1866 he was appointed agent at Parkhill & remained there until 1873, when he was appointed Assistant General Freight Agent, with headquarters at Montreal. In 1874 he was removed to Toronto in charge of the Western district, & in 1876 to Sherbrooke in charge of the Eastern district. In 1878 he again made his headquarters at Montreal. In 1881, when the Chicago & G.T. Ry. was completed to Chicago, Mr. Reeve was appointed

Traffic Manager, & in 1890, when the Cincinnati, Saginaw, & Mackinaw Ry. was acquired in the interest of the G.T., its traffic affairs were also placed under Mr. Reeve. In Feb., 1896, he was appointed General Traffic Manager of the G.T.R. system, with headquarters at Montreal, & in 1899, on the acquisition of the Central Vermont Ry. by the G.T., he was given the additional position of General Traffic Manager of that line. Mr. Reeve is a member of the Church of England. He was married in 1865 to Miss Alice Jones, of Warwick. He resides in the Prince of Wales Terrace, Montreal, & is a member of the St. James Club, the New York Club, etc. Early in Jan. it was reported in Montreal that Mr. Reeve was about to retire from railway life & take up his residence in California. When confronted with the story on his return to Montreal from the west, he smiled, & said he was very much obliged to the person responsible for the story. While admitting that he was building in California, he would not confirm the statement that his intentions were identical with those of the rumour.

Photographing St. Clair Tunnel.

Officials of the G.T.R. have recently succeeded in obtaining a flashlight photograph of the interior of the Sarnia tunnel from portal to portal. Numerous photographers from different parts of America have repeatedly tried to take one, but hitherto without success, & in the recent instance some half dozen experiments had to be made before the view was obtained. A set of large flashlight lamps were made in New York for the purpose, & a car arranged with the taking machine & flashlight apparatus was brought into requisition, from which the experiments were made.

In the history of moving pictures this was the first attempt to obtain a flashlight picture of a tunnel through which an engine & car were flying at the rate of 30 miles an hour. The experiment was only by way of trial for the first few trips, to see what could be done, & results demonstrated the possibility of perfect pictures on a complete scale such as is required for the biograph. The gondola car on which the working machines were placed was fitted up with a specially arranged outfit. A small house was built on the right, in front of the car in which were arranged the four powerful flashlight machines. The machines were connected with the compressed air on the locomotive, with attachments on the tubing to regulate the air which forced the magnesium powder from the powder chambers of the flashlight apparatus, out through an aperture, across a flame of alcohol, where it ignited & gave forth a great light of pure white & brilliancy, & with parabolic reflectors placed behind the flame, the light was



RAILWAY & SHIPPING WORLD

FLASH LIGHT PHOTOGRAPH OF INTERIOR OF ST. CLAIR TUNNEL GRAND TRUNK RAILWAY SYSTEM.

thrown for a distance of more than 1,000 ft., illuminating the tunnel to the smallest detail, & producing the desired effect for a sharp & good negative. The experiments were novel & exciting, as can be imagined—the engine running like a huge bullet through what practically looked like an immense gun barrel, illuminated with a light that could not be faced, & which necessitated the operators & those who took part in the experiments wearing blue glasses, & rushing through this hollow tube at a 30 mile pace. The mutograph or machine used by the biograph company for taking the pictures was placed on the left of the flashlight cabin, the electric motor used for running the machine being connected with 4 storage batteries that were carried on the car. Illustrations of the outfit used & of the interior of the tunnel are given on pgs. 13 & 15.

In connection with the photographing it may be of interest to give the following particulars:—The length of the tunnel proper is 6,205 ft., & of the open portals or approaches, 5,603 ft. additional, or more than 2 miles in all, the largest sub-marine tunnel in the world. It is a continuous iron tube, 19 ft., 10 ins. in diameter, put together in sections as the work of boring proceeded, & finally bolted together, the total weight of the iron aggregating 56,000,000 lbs. The work was commenced in Sep., 1888, & it was opened for freight traffic in Oct., 1891. Passenger trains began running through it Dec. 7, 1891.

The work was begun at both sides, & carried on until the two sections met in mid-river, & with such accuracy that they were in perfect line as they came together. Throughout its entire length it perforates a bed of blue clay, & with the exception of an occasional pocket of quicksand & water, with once in a while a rock or boulder, the clay was the only material met. The borings were made by means of cylindrical steel shields, with cutting edges, driven forward by hydraulic rams, & as fast as the clay was cut away a section of the iron wall of the tunnel was bolted to its fellow section, & thus the wall was completed as the work progressed. The clay overlays a comparatively level bed of rock, & in some places is itself overlaid with a bed of sand. Had the ledges pushed upward into the clay to any extent, or the sand pockets penetrated downward, the work would have been much more difficult. The rails of the track rest upon cross ties only 6 ins. apart, laid on stringers, which in turn rest on a bed of brick & concrete, filling the bottom of the tube.

The engines used to pull the trains through the tunnel & up the steep grades after emerging, are the largest in the world, having 10 driving wheels, & weighing nearly 200,000 lbs. The boilers are 74 ins. in diameter, the fire-boxes are 132½ ins. long & 32½ ins. wide, & the cylinders are 22 ins. in diameter, with 26 ins. stroke.

The cost of the tunnel was \$2,700,000, & when it is understood that 4,000 cars can be daily moved through it, & this is contrasted

with the slow & laborious transfer by ferry, it will readily appear that the enormous expenditure was one which yields profitable returns.

RAILWAY PROJECTS.

Athabasca Central Ry.—C. W. Cross, Solicitor, Edmonton, Alta., gives notice of application to the Dominion Parliament to incorporate a company under this name to construct & operate a railway from Edmonton, on the north side of the North Saskatchewan River, to or near Victoria Settlement, thence to the Athabasca River via Lake La Biche River, thence to or near the mouth of House River, thence to or near the mouth of Clearwater River at or near Fort McMurray, thence to or near the mouth of Tar River, thence to the Red River, thence to or near Vermillion Falls on Peace River, & thence to or near Fort Smith on Slave River; also from or near Fort Smith to or near Fort Churchill on Hudson's Bay or from Black Lake, being the head of navigation of Lake Athabasca, to or near Fort Churchill; also to build & operate a tramway near the Athabasca River from House River to Clearwater River, also near to Peace River in the vicinity of Vermillion Falls, & also near to Slave River at or near Fort Smith, & with other powers.

The Bay of Quinte Ry. Co. gives notice of application to the Dominion Parliament for an act to extend the time for the completion of the main line, extensions & branches, & for other purposes.

Connor Station to St. Charles Jct., etc.—J. X. Straton, Solicitor, Ottawa, gives notice of application to the Dominion Parliament to incorporate a company to construct & operate a railway from Connor Station, N.B., on the St. Francis branch of the Temiscouata Ry., to a point on the I.C.R. at or near St. Charles Jct., or a point on the Quebec Central Ry. at or near St. Anselme, or a point on the G.T.R. at or near Chaudiere Jct., Que., & with other powers.

Crow Lake Ry. & Development Co.—Teetzel, Harrison & Lewis, Solicitors, Hamilton, give notice of application to the Ontario Legislature to incorporate a company under this name to construct a railway from White Fish Bay, Lake of the Woods, easterly to Crow Lake, and with other powers.

The Kingston & Pembroke Ry. Co. gives notice of application to the Dominion Parliament for authority to extend its line from Renfrew, Ont., across the Ottawa River to Bryson, Que., & thence northward to the eastern branch of the Ottawa River.

Kitimat Arm to Hazelton, etc.—Wilson & Senkler, Solicitors, Vancouver, give notice of application to the Dominion Parliament to incorporate a company to build & operate a railway from Douglas Channel at or near the head of Kitimat Arm, in the Coast District of B.C., thence by way of the mouth of Copper River, the Kitsalas Canyon & the Skeena River, to or

near Hazelton, Cassiar; thence by way of Babine, Manson & Parsnip rivers, or other feasible route, to Pine River Pass, Cariboo; or, as a partially alternative route, from or near Kitsalas Canyon to Bulkley Valley, & thence following the valley of the Bulkley River to Hazelton; & also to build & operate railways from the nearest or most available point on the route of the aforementioned railway, southerly & easterly by way of the Stuart Lakes, or other convenient route, to or near Fort George, thence along the valley of the Fraser river to Quesnelle, Cariboo; & also from or near Fort George or the Stuart Lakes, by way of the south fork of the Fraser River, Cariboo, to the Yellowhead Pass, Alberta, with power to extend the railway from Kitimat Arm along the northerly side of Douglas Channel to or near Hartley Bay, & with other powers.

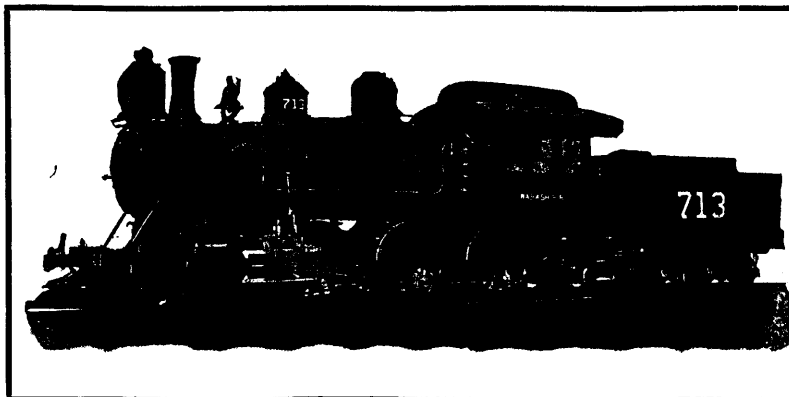
Lake Bennet to Hootalinqua River.—D. G. Macdonell, Solicitor, Vancouver, gives notice of application to the Dominion Parliament to incorporate a company to construct a railway from the west side of Lake Bennet, Yukon, to Lake Laberge & thence to the mouth of the Hootalinqua River at its junction with the Lewes River, to own & navigate vessels & with other powers.

Lindsay, Bobcaygeon & Pontypool Ry.—At the same time as the municipal elections were held recently by-laws granting bonuses to this enterprise were voted on & carried as follows:—Township of Harvey \$3,000, Village of Bobcaygeon \$11,000, Township of Verulam \$14,000, Township of Ops \$15,000, Town of Lindsay \$25,000, Township of Manvers \$5,000. In the township of Cartwright the municipal elections having been by acclamation only a small vote was polled, though there was a considerable majority for the by-law, & an investigation is now being made to see if the necessary aggregate number of votes was polled. The municipalities mentioned above are all through which the proposed line would pass, & as they have all granted aid it is expected that the Co. will now proceed to finance the undertaking, & to make arrangements for starting construction. (Dec., '99, pg. 359.)

The Montreal & Ottawa Ry. Co. gives notice of application to the Dominion Parliament for an Act extending the time within which it may complete its railway & connect it with the C.P.R. in Ottawa, & for other purposes.

Morris & Portage Railway Co.—T. L. Metcalfe, Solicitor, Winnipeg, gives notice of application to the Dominion Parliament to incorporate a company under this name, to build & operate a railway telegraph from or near Morris, Man., to or near Portage la Prairie, & with other powers.

The Naplerville Jct. Ry. Co. gives notice of application to the Quebec Legislature to amend its charter, by giving it the option to construct its line between a point in the Parish of St. Constant & a point in the Parish of La-colle, at or near Rouse's Point.



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Simple and Compound

LOCOMOTIVES.

Adapted to every variety of service.

The Oshawa Ry. Co. gives notice of application to the Dominion Parliament for an act to extend the time for the completion of its main line & branches, & for other purposes.

The Thousand Islands Ry. Co. gives notice of application to the Dominion Parliament for an act to extend the time for the completion of its main line, extensions & branches, & for other purposes.

The Western Alberta Ry. Co. gives notice of application to the Dominion Parliament for an act to extend the time limited for the commencement & completion of the undertaking.

Vancouver Island & the Mainland.—The negotiations between the Victoria City Council & the Port Angeles Eastern R.R. Co., in reference to the establishment of a fast passenger steamer & car ferry service between Port Angeles, Wash., & Victoria, has fallen through. The Co., which originally asked for an annual subsidy of \$17,500 for 20 years, refused to accept a reduction of the amount to one half, as offered by the city. The Co. also objected to some of the City's stipulations, particularly one requiring the vessels employed to be built & owned in Victoria. (Nov., '99, pg. 334.)

But little progress has been made in regard to the proposal that the city of Victoria subscribe for \$500,000 of stock in a company to acquire the Victoria & Sidney Ry., to extend it into the business part of Victoria, & to a convenient port north of Sidney; to establish & operate a ferry system between such extension on the Saanich peninsula & the mainland of B.C., south of the Fraser River, & to build & operate a railway from such point on the mainland through Delta, Surrey, Langley, Matsqui, Sumas & Chilliwack. The Council, in the by-law which has been drafted, insists that the city shall incur no liability in respect to its subscription for shares until the company shall have, either by the sale of its shares or by municipal, provincial or federal cash bonuses, cash grants or guarantees in aid of the construction of the undertaking, secured to it for the purpose of its undertaking not less than \$500,000. A motion to reduce to \$200,000, the sum to be raised by the company outside the city's subscription, was defeated in the council, the promoters of the company refuse to accept the provision above mentioned, & the matter is therefore at a standstill. (Dec., '99, pg. 360.)

Victoria to North End of Vancouver Island.—In discussing the claims made by U.S. papers, that the whole of southeastern Alaska is likely to be the scene of mining operations, the Victoria, B.C., Colonist says it believes that, just as exploration is disclosing that the gold-bearing rocks are found all the way along the coast from Lynn Canal to Prince of Wales Island, & westward in the archipelago as far as Baranoff Island, so it will be found before long that the formation which carries gold in Atlin extends southeastward on the east side of the Coast Range, possibly all the way to the Fraser River. However this may be, there is abundant evidence that the gold mining industry of the Northwest Coast is only in its infancy. It is likely to increase very rapidly during the next few years. The Colonist continues:—"Hitherto Seattle has handled the greater part of the north-bound business to Alaskan points, & this has been due to that city's position as the terminal of all, or nearly all, lines of communication from across the line. The probability now is that another line of communication, much quicker than that by way of Seattle, will be established & it will be utilized by Portland, San Francisco & other points in the U.S. The Southern Pacific will seek its share of this northern business, & the Chicago, Burlington & Quincy, which is now reaching out for western business, will see in it a profitable field. The route to which we refer is that which will be

established by the construction of the Port Angeles Eastern Ry., the extension of the Esquimalt & Nanaimo Ry. to the north end of Vancouver Island, & the establishment of ferry connection between these two railways. When this route has been established, there will be a fleet of steamers plying from the north end of Vancouver Island to points in Alaska as well as to points on the mainland of B.C. President Shaughnessy, of the C.P.R., recognizes the importance of the railway to the north of the Island, & when in Victoria, a short time ago, expressed his belief that the people ought to make a determined effort to secure its construction. Other well-known authorities in transportation matters entertain the same view. We are strongly of the opinion that a railway to the north end of the Island, with branches to points on the West Coast, & ferry connection with the Port Angeles Eastern, is the most important project that can be suggested in the interests of Victoria, except a new transcontinental line following the proposed route of the British Pacific." The Colonist urges the people of Victoria to secure the necessary ferry connection, & to use their influence towards procuring the granting of a subsidy from Parliament at its next session.

Railway Committee of Privy Council.

Metropolitan Ry. Co. & C.P.R.—On Jan. 9, for the first time in the history of Canada, the Privy Council heard an appeal from a finding of the Railway Committee of the Privy Council in the case of the proposed connection between the Metropolitan Ry. & the C.P.R. at North Toronto.

H. L. Drayton, for the City of Toronto, stated that by reason of agreements between the city, the county of York, & the M. Ry. Co., the latter was empowered to use the section of Yonge St. affected. The franchise of the county line provided for the construction of the line under limitations, & the city now stood in the same relation to the Co. as the county formerly stood. An act was passed by the Ontario Legislature changing the name of the Co. to the Metropolitan Ry. Co. The Co. certainly had the right to extend its line north, but under the restrictions mentioned. The first section of the act provided that the Co. should be a street railway purely.

B. B. Osler offered to shorten the argument by putting in a factum if the other side would do the same. The suggestion was accepted. Proceeding with his argument, he asked whether the Railway Committee intended to interfere with Provincial legislation. Even if the Railway Committee had jurisdiction, should they exercise it? The Metropolitan Ry. now asked for 50 ft. more of the highway. The Order in council recited the consent of the City Council, although the Council had formally repudiated the consent before the Order in council was taken out. The order had been made under the new section, 173 of 56 Vic., providing against the crossing or joining of railways without the consent of the Railway Committee of the Privy Council. The difference that was made out was that between Provincial & municipal railways. The intention seemed to be to take up Yonge St. for 30 miles by a branch of the C.P.R. Those owning frontages there had protested, & would doubtless continue to do so. He contended that the Railway Committee had not the power to unite a municipal & a Dominion railway, & expressed the belief that the consent of the city was necessary to the carrying out of any junction.

W. Barwick, for the Metropolitan Ry., explained the route of the roads, & stated that the municipalities along the road had all sent representatives asking permission that the C. P.R. & Metropolitan be allowed to carry out the junction. The plan of the road when first

built in 1884 had been accepted by the County Council. The City had certainly given its consent, which it now sought to rescind. All the freight business was now done on the street, whereas if the connection were made the C.P.R. property would be used. The Metropolitan was ready to make any fair arrangement, & the Railway Committee's order was eminently fair. It was unfair to say that the Metropolitan sought to become a Dominion railway. The Co. sought to get to the Toronto market, & desired to connect with the C.P.R. solely on that account. The Hamilton, Grimsby & Beamsville & the radial railways connected with the steam lines. The Toronto Ry. successfully fought the Metropolitan's project to have a connection made. The Market Committee of Toronto had consented to have trolley trains brought around the city by steam locomotives. The City Council committee, however, had laid down terms which the Metropolitan had not accepted. The City demands included a single fare to the cemetery. The aldermen had also asked that all freight carried by the Metropolitan should be unloaded in the City. The City Council had sent a deputation to lay the City's case before the Railway Committee with general instructions. Mr. Fullerton, for the City, certainly signed the consent to the order. Afterwards the City passed a by-law repudiating the action of its own council. The whole trouble was over the 1,200 ft. of Yonge St. in the City, over which the Metropolitan trolleys run. The rights which the Metropolitan formerly had it still possessed. In 1896 the Co. was empowered to extend the line to Lake Simcoe, on condition that it should carry freight. The understanding between the Ontario Government & the Co. was satisfactory to both parties. The City sought to throttle the York farmers, & to compel them to pay large market fees. It was nonsense to talk of making Yonge St. a branch of the C.P.R., as the steam locomotives could not pull loads of freight up the heavy grades. The City & Co. certainly made an agreement in 1891, whereby on 24 hours' notice the Co. promised to give up electricity & to return to horse motive power. This covenant could not be enforced, as he had pointed out in Nov. last.

Warden Woodcock, of York, assured the Cabinet that the county was with the Metropolitan in its desire to go into the City. No injury could be done the City by the Government giving the permission. County Councillor Lundy, of East Gwillimbury, endorsed Warden Woodcock's views, & pointed out that the dairying industry would be greatly benefited by the connection. Councillor Evans thought the whole question had resolved itself into a fight between the City & the Metropolitan. There was no fear of destroying Yonge St. Mr. Yule, of Aurora, said that the people of that village had benefited very largely by the Metropolitan.

G. M. Clarke, for the C.P.R., did not think with Mr. Osler that the Railway Committee had not the power to rule as had been done. The Government had every power so to rule. There was no doubt as to the prerogatives of the Dominion Parliament.

Judgment was reserved.

A. O. Norton, manufacturer ball-bearing lifting jacks, Boston, Mass., & Coaticook, Que., has built a 75x35 ft. two story addition to his Canadian plant, & reports enough orders already booked to keep both plants employed to the maximum of their capacity until April.

Duncan S. McIntyre, who has been well known in the iron trade in Canada for the last 20 years, has been appointed General Sales Agent for the Dominion for the Abbott-Mitchell Iron & Steel Co., of Belleville, Ont. Mr. McIntyre will also continue to act as General Sales Agent for F. E. Came, of Montreal.

Chicago & Grand Trunk Finances.

Since pg. 5 went to press, a Chicago despatch of Jan. 19 states that papers have been filed in the U.S. Court by Dickinson, Warren & Warren, on behalf of S. Borg & Co., New York, bankers, to protect the interests of the holders of the 1st mortgage bonds in the C. & G.T.R. foreclosure suit now pending before that court. Borg & Co. represent directly an interest of £70,000 sterling in the 1st mortgage. The papers are in the form of a petition to the court that they may be made parties to the foreclosure suit, & in the petition are set forth charges that the C. & G.T.R. has been manipulated & that its management has been purposely defective for the purpose of carrying out a plan of financiering inimical to the interests of the 1st mortgage bondholders. E. W. Meddaugh, of Detroit, counsel of the C. & G.T.R., & J. Bell, attorney & counsel of the G.T.R. of Canada, are made parties to these charges, together with the Directors of the G.T.R. The C. & G.T.R. Co., of Michigan, Indiana & Illinois is a corporation separate & distinct from the G.T.R. of Canada. E. W. Meddaugh is counsel for both corporations.

The Canadian Gazette, London, Eng., of Jan. 11, says:—"With reference to the proposed scheme for reorganizing the C. & G.T.R. Co., the trustees have announced that they have obtained the approval of holders of the majority of the 1st & 2nd mortgage bonds, & that receivers have been appointed in proceedings instituted in the U.S. Courts for the purpose of carrying the scheme into effect. Bondholders who have not yet approved of the scheme are requested to deposit their bonds with Glyn, Mills, Currie & Co. forthwith. It is also stated that application is to be made to the London Stock Exchange for a quotation of the trustees' certificates, which carry interest at 4% per annum from Jan. 1. But we are informed by A. Keyser & Co. that they deny the statement of the G.T.R. Co. of Canada that the reorganization committee holds a majority of both 1st & 2nd mortgage bonds, so far as private holders are concerned. The G.T.R. Co. has put in its own

bonds, amounting to 260,000, out of 1,240,000, in the case of the firsts, & 611,000, out of 1,240,000, in the case of the seconds, but Messrs. Keyser say that a very large amount of firsts held by individuals has been deposited with them, & that nearly all the seconds similarly held are now under the control of the Amsterdam committee. The plan will therefore continue to be opposed by the large majority of private bondholders, through their committees."

Manitoba Government Railway Bonuses.

The question of provincial bonuses to railways is exciting a lot of discussion in Manitoba. The new Premier, Hugh John Macdonald, announces that he & his colleagues have discovered that the late Greenway Government during the past year bonused 85 miles of line to the amount of \$148,750, & granted the lines exemption from taxation for 20 years, as follows:—

C.P.R. Bonnet Lake branch, 22 miles, \$38,500.

C.P.R. Snowflake branch, 17 miles, \$29,750.

C.P.R. Waskada branch, 23 miles, \$40,250. Saskatchewan & Western Ry., extension from terminus of Great Northwest Central at Hamiota to Miniota, 23 miles, \$40,250.

The first two grants above mentioned were made by orders-in-council on July 14, 1899, the two last mentioned were promised in letters pledging the Government to secure them. Premier Macdonald also says that after the defeat of the Greenway Government at the polls, & before it relinquished office, an order-in-council was passed guaranteeing the bonds of the portion of the Manitoba & Southeastern Ry., which runs through Minnesota for 42 miles under the name of the Minnesota & Manitoba Ry. Mr. Macdonald charges that these grants were kept secret, & that members of the Greenway Government led the people to believe that the lines to which \$1,750 a mile were granted were being built without Government aid. Ex-Premier Greenway admits that the facts as to the orders-in-council being passed & as to letters promis-

ing aid being given, are as stated, but defends the action of his government as being in line with its policy for years past. He contends that the order-in-council respecting the Manitoba & Southeastern was merely carrying out the requirements of a clause in the contract between the Government & the Co., which was approved of by the Legislature two years ago.

Behind the Engine.

Quinn—Which is the swiftest animal?
DeFonte—Well, I've heard of an elephant making a mile a minute.

Quinn—Preposterous! Where was this wonderful elephant?

DeFonte—On a circus train.

Canada Atlantic Sale Rumored.—Early in Jan. a New York correspondent of a Montreal paper wired as follows:—"Some of the representatives of the Canada Atlantic Ry. were in New York a few days ago. They entered into negotiations with powerful capitalists for the sale of Mr. Booth's system. The price asked was \$14,000,000 for the line & also for terminal facilities in Montreal. These latter, I am assured, were valued at \$4,000,000, & the system itself, that is to say, the railway, at \$10,000,000." J. R. Booth says there is no truth in the story.

The Red Line Transportation Co. is charging the following rates this winter from Lake Bennett, B.C.: Bennett to Cariboo, passengers, \$5; baggage & express, 2½c a lb.; freight 1½c a lb.; Bennett to Closeleigh, or to White Horse, passengers, \$20; baggage & express, 7½c a lb.; freight, 5c. a lb.; Bennett to Lower Lebarge, passengers, \$40; baggage & express, 12½c a lb.; freight, 10c a lb.

The L'Assomption Ry., between L'Epiphanie station, Que., on the C.P.R., & L'Assomption, was, as usual, closed down Jan. 7 for the winter, and will probably be reopened between Mar. 15 & April 1.

MANITOBA

Population..... 200,000.
Number of Farmers.. 27,000.

Look Up Its Advantages

Before Going Elsewhere.

CROP OF 1895.		CROP OF 1896.	
A Favorable Season.		An Unfavorable Season.	
Average yield per acre.			
WHEAT.....	27.86 bushels	WHEAT.....	14.33 bushels
OATS.....	46.73 "	OATS.....	28.25 "
BARLEY.....	36.09 "	BARLEY.....	24.80 "
FLAX.....	16.08 "	FLAX.....	12.30 "

Over 10,000,000 acres in Manitoba that have never been cultivated. Price of land from \$2.50 to \$6.00 per acre. On easy terms.

Settlers coming to Manitoba should always

DROP OFF AT WINNIPEG

for a few days, and secure reliable information about settlements, free homesteads and lands for sale, from the heads of departments located in Winnipeg. For latest information and maps, all free, address

THOMAS GREENWAY,

Minister of Agriculture and Immigration.
WINNIPEG, MANITOBA.

Or
C. H. JEFFERYS,

Manitoba Immigration Agent,
30 York St., Toronto, Ontario

THE FAVORITE ROUTE

To **New York** and
.....**Philadelphia**

GRAND TRUNK RAILWAY
in connection with the
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Route of the "Black Diamond Express," handsomest train in the world.

Leaving **Toronto** daily (except Sunday) at 9 a.m., **Hamilton** 9.55 a.m., arrive **New York** 10.08 p.m.

Fast Night **New York** and **Philadelphia** Express, leaving **Toronto** 6 p.m. daily, arrive **New York** 9.13 a.m., **Philadelphia** 8.56 a.m.

Pullman Sleepers from **Toronto**, **Hamilton** and **London** to **New York** and **Buffalo** to **Philadelphia**.

Call on Grand Trunk Ticket Agents for tickets and further information, or address

Robt. S. Lewis
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All C.P.R. Agents in
MANITOBA,
ASSINIBOIA,
ALBERTA and
BRITISH COLUMBIA

sell through tickets to the Old Country, cheaper than if passengers bought railway tickets to New York or Montreal, and then re-booked.

They also sell prepaid tickets to passengers coming from the old country, cheaper than the rate obtainable in Europe, and on favorable terms.

Apply to any agent Port Arthur and west, or to

WILLIAM STITT,
C.P.R. Offices,
WINNIPEG.

Interior of the St. Clair Tunnel. In the illustration on pg. 13, of a flash light photograph showing the interior of this tunnel, it will be noticed there are two slight white marks, which look like apertures, at the far end. These, however, are not at the far end of the tunnel. The flash light photograph was taken from the mouth of the tunnel & looking down the first grade, & what appear to be two apertures are the lights which are stationed at the bottom of the grade & which were some 1,100 ft. away from the car from which the photograph was taken. The first portion of the tunnel on either side is a down grade, & between the two grades is a level stretch in the centre of the tunnel about 1,000 ft. in length. At the bottom of both the down grades are stationed two lights, one on each side of the track.

W. R. Baker, General Manager of the Manitoba & Northwestern Ry., is going to England for a three months trip, accompanied by Mrs. Baker.

SHIPPING MATTERS.

The Montreal Elevator Syndicate.

The agreement between the Montreal Harbor Commissioners & the Conners Syndicate, as detailed in our last issue, pg. 363, was subjected to a few changes, the principal ones being, that the syndicate, with the approval of the Harbor Board, should have the power to vary the proportion of elevators & warehouses on the piers at Windmill Point Basin to the requirements of the traffic, & that the commissioners should not be entitled to assume possession of the property & business of the Syndicate upon giving a year's notice unless it failed to carry out its agreement. These alterations were fully considered & accepted in principle by the Board, & the Dominion Government has approved of the agreement.

C. I. de Sola, Montreal, informs us that he will supply a number of steamships & barges for the Syndicate. The exact number will depend upon circumstances, but he expects to supply about 15. He has already undertaken to have 4 powerful screw steamers & 4 barges ready during next summer & fall, & a number more for next year, & so on until the whole fleet is built. The steamers will be about 245 ft. long, & 43 ft. beam, with a draft of 14 ft. The engines will be of the most modern & most powerful type, capable of driving the vessels 14 miles an hour, & of towing with ease 2 fully loaded barges or more if necessary. The steamers will each have a carrying capacity of about 80,000 bush. of grain. The barges will be very similar to the steamships in dimensions, & will each have a carrying capacity of about 100,000 bush. of grain, so that a steamer & 2 barges, which will make the usual tow, will carry about 280,000 bush. of grain each trip. Mr. de Sola says it is probable that by the time the programme has been completed \$2,000,000 will have been spent in vessels. He is associated with the English firm of Swan & Hunter, Ltd., & with the Cockerill Works, one of the largest steel concerns in Continental Europe. It is his intention to have as much of the work done in Canada as possible, & everything will be done to extend the works in this country as rapidly as circumstances will permit. He anticipates that the Conners Syndicate will result in his carrying out his long cherished hope of creating a large ship building trade in Canada on the most up-to-date basis. He has been aiming at this for a number of years, & believes that the erection of the Conners elevator at Montreal will give rise to a trade between the lake ports & Montreal which will create such a demand for steamers as will justify the establishment of additional ship building works in Canada. It is probable that some of the steamers & barges required will be built in Toronto.

Via French River to Montreal.

On page 6 is a reference to an Ottawa rumor about the C.P.R. contemplating the improvement of the navigation of the French River, & the construction of a grain elevator at North Bay. It is now announced that the improvement of the navigation in question is seriously contemplated by the Dominion Government, the Minister of Public Works having recently made the following statement: "I have been giving my attention to this matter for several months, so much so that I will ask my colleagues to allow me to place in the estimates a pretty large amount of money to improve the French River from its mouth on Georgian Bay to Lake Nipissing. The distance is about 50 miles. It is already a navigable river, & we will only have to improve parts of it to make it a first-class waterway for ships drawing 18 ft. We will require to build dams & a couple of locks, & the balance of the work will be dredging. Just look at the facts. Up to this day the C.P.R. has carried our Canadian wheat to Fort William, where it has been left to its fate, or, in other words, has been taken by U.S. barges to Buffalo. Out of 10 bush. of Canadian grain I do not think I am exaggerating in saying that 9 have gone to U.S. ports. All that will be changed by the project we have now in hand. The distance from Fort William to North Bay is 659 miles. From North Bay to Montreal it is 360 miles. The C.P.R. will undertake to carry with a fleet of its own our Canadian grain from Fort William to North Bay, where it will be transhipped to C.P. cars, en route to Montreal. In other words, the C.P.R. will do what the Canada Atlantic Ry. is now doing from Depot Harbor. If this enterprise is carried out, as I have no doubt it will be, it will bring 25,000,000 or 30,000,000 bush. of Canadian grain to the St. Lawrence route & to Montreal. Of course, the port of Montreal has to be equipped speedily, & that is the reason why I have been urging so strongly on the Harbor Commissioners to go ahead.

"The Government certainly intends to have the works at Montreal gone on with. I am now in communication with the Harbor Commissioners. There is now \$500,000 in the estimates of my Department for carrying out works in the eastern portion of the harbor, where the C.P.R. will locate itself more & more. You will understand that there must be considerable improvements at the port of Montreal, but it must also be borne in mind that it is not a Montreal question, but interests nearly everybody in the Dominion, farmers, merchants, manufacturers, & in a word, all who use transportation."

Marine Work in Toronto.

The following work is in hand at the Polson Iron Works, Toronto:—

For the C.P.R. Co., a machinery outfit for a tug boat for Kootenay Lake, consisting of a fore & aft compound, jet condensing, marine engine, with cylinders 14 ins. & 30 ins. by 20 ins. stroke, having Clyde boiler 11 ft. diam. by 12 ft. long, both built to pass Government inspection for a safe working pressure of 150 lbs.

For the Kootenay Ry. & Navigation Co., an outfit for a stern wheel steamer, consisting of 1 pair stern wheel engines, cylinders 20 ins. diam. by 84 ins. stroke, & 1 locomotive fire box boiler, 80 ins. diam. by 28 ft. long, all built to pass Government inspection for a safe working pressure of 175 lbs.

For Roderick Smith, of West Selkirk, Man., a marine outfit, consisting of one 10 in. by 12 in. vertical engine, with suitable Clyde boiler, all built to pass Government inspection for a safe working pressure of 150 lbs. This outfit is intended for a tug & passenger boat.

For McKeen & Johnston, New Westminster, B.C., a marine outfit for a tug boat, consisting of a fore & aft compound, surface condensing engine, with cylinders 8 ins. by 18 ins. by 12 ins. stroke, & 1 Clyde boiler 84 ins. by 96 ins. long, both built to pass Government inspection for a safe working pressure of 150 lbs.

For T. W. Patterson, of Victoria, B.C., a marine outfit, consisting of a fore & aft compound, surface condensing engine, with cylinders 10 ins. & 22 ins. by 16 ins. stroke, & 1 Clyde boiler 7 ft. 6 ins. by 10 ft. long, both built to pass Government inspection for a safe working pressure of 150 lbs.

Particulars of the work being done in the shipyard of the Polson Iron Works are given on pg. 25.

Toronto Wharf Improvements.

Plans have been prepared for the erection of a wharf, freight & baggage sheds, offices & waiting rooms for the Richelieu & Ontario Navigation Co. & the Hamilton Steamboat Co. The laying of the cribwork has been commenced. The new structure will be known as the Richelieu wharf. It will extend into the bay 357 ft. from the foot of Scott st., & will occupy 54 ft. of the slip between Milloy's wharf & the Toronto Electric Light Co.'s wharf. It will support a shed 264 x 24 ft., divided into two sections—a freight shed, offices, waiting room, ladies' toilet room & passage way for the Hamilton Steamboat Co., & likewise waiting rooms, conveniences, etc., somewhat larger, for the R. & O. N. Co.

On the west side of the new wharf there will be a slip 124 ft. wide, & on the east side one 114 ft. wide. The berth of the str. Toronto will be on the east side & for the Hamilton steamers on the west. The driveway & walk will be quite spacious, & one feature that will be appreciated by passengers will be the walk, separated by posts, to protect pedestrians from vehicles, while walking from the boats to the Esplanade. The freight offices of the R. & O. N. Co. will be the same as at present. The work is to be completed by April 1. The cost is estimated at \$22,000.

W. & R. Freeland, the owners of the property, say that the old & somewhat unsightly coal sheds that stand to the east of the Yonge st. wharf are to be torn down & others erected & that negotiations are pending with the C.P.R. for the erection of an elevator upon the same site.

The Niagara Navigation Company purposes making general alterations & improvements to its present quarters at the Yonge st. wharf.

By the time navigation reopens in the spring the wharves at the foot of Yonge & Scott sts. should have a decidedly improved appearance.

Sault Ste. Marie Canal Traffic.

Not even the vessel owners of the lakes themselves realize the full meaning of the announcement that 25,250,000 tons of freight passed to & from Lake Superior through the canals at Ste. Marie (Canadian & U.S.) during the season of 1899. This, says the Marine Review, is just 4 times as much freight as passed the Sault in 1884, 12 years ago. In 5 years the freight tonnage has been almost doubled, as the figures for 1894 were 13,195,850 tons. The wonderful growth of traffic in this waterway is best shown by the following table giving the number of tons of freight moved & the registered tonnage of vessels for 12 years past:

	Total freight, net tons.	Registered Tonnage of vessels.
1899.....	25,255,810	21,658,347
18 8.....	21,234,664	18,622,754
1897.....	18,922,755	17,619,933
1896.....	16,239,061	17,240,418
1895.....	15,062,880	16,806,781
1894.....	13,195,850	13,110,366
1893.....	10,796,572	8,949,754

1892.....	11,214,333	10,647,203
1891.....	8,888,759	8,400,685
1890.....	9,041,213	8,454,435
1889.....	7,516,022	7,221,935
1888.....	6,411,423	5,130,659

The Canadian canal shared only to the extent of about 12% in the record of 25,000,000 tons moved during 1899. The figures are 22,252,139 tons moved through the U.S. canal, as against 3,003,671 tons through the Canadian canal. The full summary of the year's commerce, as reported by the officials in charge of the U.S. canal, is as follows :

ITEMS.	Designation.	SEASONS.		Increase Per cent	Decrease Per cent
		1898	1899		
Vessels -					
Steamers.....	Number	12,461	14,378	15	....
Sails.....	Number	4,449	4,776	7	....
Unregistered.....	Number	851	1,101	29	....
Passengers.....	Number	17,761	20,255	14	....
Tonnage—					
Registered.....	Net tons	18,622,754	21,958,347	18	....
Freight.....	Net tons	21,234,664	25,255,810	19	....
Passengers.....	Number	43,426	49,082	13	....
Coal—Hard.....	Net tons	540,843	841,281	56	....
Soft.....	Net tons	3,235,607	3,099,606	4	....
Flour.....	Barrels	7,778,043	7,114,147	9	....
Wheat.....	Bushels	62,339,996	58,397,335	6	....
Grain (other than wheat).....	Bushels	46,078,384	30,000,935	15	....
Manufactured & pig iron.....	Net tons	250,170	214,585	14	....
Salt.....	Barrels	21,234,664	25,255,810	5	....
Copper.....	Net tons	124,226	120,090	3	....
Iron ore.....	Net tons	11,706,060	15,328,240	31	....
Lumber.....	M. ft. B. M	895,485	1,038,057	16	....
Silver ore.....	Net tons	0	487	....	....
Building stone.....	Net tons	4,670	39,063	736	....
Unclassified freight.....	Net tons	623,146	587,484	6	....

The U.S. canal was opened May 2 & closed Dec. 18, 1899; season, 231 days. The Canadian canal was opened April 26 & closed Dec. 20, 1899; season, 239 days.

The following table shows the division of traffic between the 2 canals—Canadian & U. S.—& also the division of freight east & west bound :

ITEMS.	Designation.	U.S. canal.	Canadian canal.	TOTAL.
Freight:				
East bound	Net tons.	18,338,253	2,281,281	20,619,534
West bound	Net tons.	3,911,886	722,390	4,636,276
Total freight.....	Net tons.	22,252,139	3,003,671	25,255,810
Vessels.....	Number.	16,480	3,775	20,255
Registered tonnage.....	Net tons.	19,021,489	2,936,858	21,958,347

Notices to Mariners.

The Dominion Department of Marine has issued the following notices :—

No. 93. Dec. 19, Nova Scotia. Pier lights in Halifax harbor.

No. 94. Dec. 20, Ontario. 1. Color of Byng Inlet back range light. 2. Lighted buoys

in the approaches to the Sault Canal. United States, Great Lakes, & connecting waters. 3. Change in position of Galloo Island shoal gas buoy. 4. Increase in height of Sackett's Harbor light. 5. Isle aux Peches, range lights.

No. 95. Dec. 20, P. E. Island. Temporary discontinuance of North Point light.

No. 96. Dec. 23, British Columbia. Hydrographic notes. 1. Wharf at Hope Bay, Pender Island. 2. Rock off Lizard light. 3. Church in Active Pass. 4. Start Bay & Van Anda Cove, Japan. 5. Atoiya-Misaki, light & fog alarm. 6. Shioyasaki, light. 7. Passage of Tokyo, fort no. 3.

No. 97. British Columbia. 1. Change in position of Gallow Point beacon light. 2. Beacons on Sturgeon & Spanish banks replaced. U.S.A., Washington. 3. Shoals in Rosario Strait located.

No. 98. Dec. 29, Nova Scotia. Buoy marking wreck of S.S. Portia.

No. 99. Dec. 29, New Brunswick. Winter arrangements, Quaco buoys.

No. 100. Dec. 30, P. E. Island. Changes in range lights at Casumpec.

No. 1. Jan. 2, New Brunswick. Hand fog horns at Bay of Fundy light stations.

Exemption of U.S. Vessels from Fees.

The following notice was recently issued by the Dominion Department of Marine :—"As a result of an agreement between Canada & the United States, American steamboats, carrying passengers to or from any port in the Province of Ontario, will in future be exempted from the imposition of steamboat inspection, tonnage dues, & also from steamboat inspection fees."

An Ottawa despatch says :—"The collection of harbor light & inspection fees from U. S. vessels was dispensed with by reciprocal arrangement between the two Governments some years ago. Congress had passed a law imposing harbor & lighthouse dues upon vessels sailing from countries exacting similar imposts from U.S. vessels, & accordingly Canada agreed to discontinue the collection of such fees from the U.S. craft using our harbors. This was the position until last season, when, without authorization, a new regulation was issued to have such dues collected in Canadian ports. It is said this action threatened to bring about retaliation, & so an amended regulation has been issued for next season in accordance with the international agreement. If the collection of these dues were continued fees would be exacted on Canadian tonnage in U.S. ports of a similar or more onerous character, & Canadian shipping would stand to lose by the arrangement."

A Dominion order in council has been passed making amendments to the rules for the construction of marine steamboat boilers & formula for calculating the strength of spherical heads of steam drums.

Canada to the Fore.

Dominion Statistician Johnson gives the following interesting facts :—

The first company to build a vessel that crossed the Atlantic Ocean, driven by steam, was a Canadian company, called the Quebec & Halifax Navigation Co.

The first line of ocean steamers, the Cunard line, was originated by three Canadians—Jos. Howe, T. C. Haliburton & S. Cunard.

The first ocean service to Montreal was the result of the company formed by the five brothers Allan & five others of Montreal, Quebec & Kingston.

Three years before any such vessel ran in Great Britain a Canadian, John Molson, had built & put into the business a steamer to carry passengers between Montreal & Quebec.

The first compound engine ever used in a steam-driven vessel was made in New Brunswick & used by a St. John River boat.

The first screw propeller was the invention of a Nova Scotian, who used it in St. John Harbor in 1834 to drive his schooner.

All the vessels of the Dundee whaling fleet with the exception of the Polar Star, which was wrecked in Hudson's Bay, have now returned from the season's fishing. The Polar Star, after a long & continuous struggle with the ice, beginning in June & ending in Sep., was ultimately left to her fate in an utterly unseaworthy state on the western shores of Hudson's Strait. The vessel encountered fearful gales, & sustained such damage by being repeatedly nipped in the ice that her crew & her cargo, 132 walrus & 4 bears, were ultimately transferred to the Active. The catch of the Active comprised 173 walrus, 60 musk oxen, 30 bears, 30 foxes, 6 wolves & 4 wolverine.

British Columbia Shipping.

R. P. Rithet & Co. say that the past year has been one of steady & satisfactory progress, with a marked improvement in all lines of business. The lumber industry has been unusually active, & the mills engaged in the export trade had all the orders they could handle at remunerative prices, some of the larger mills having had to keep their machinery running day & night for a large portion of the year. The volume of business has been somewhat curtailed, for some months back, by the want of tonnage, but even with this drawback, a very satisfactory trade has been done. The prospects for the future are good; many of the mills have orders in hand to keep them going for probably half the year. Indeed, new business will hardly be entertained for earlier loading than July or Aug. The export price of lumber has recently been increased to a basis of \$10 per 1,000 ft.

The salmon canning business was on the whole fairly satisfactory. The northern canneries did well, &, although the supply of raw

WIRE ROPES, MARION STEAM SHOVELS, BALLAST UNLOADERS.

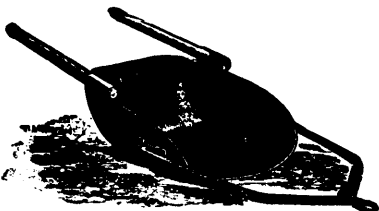
Columbus Pressed Bowl Wheel and Drag Scrapers.

.....Wheelbarrows, Picks, Shovels, Mattocks, Etc.

Contractors Rails and Dumping Cars.

Saddle Tank Locomotives.

JAMES COOPER, 299 ST. JAMES ST., MONTREAL.



fish on Fraser river was not so large as expected, most of the canners secured fair packs, but at a high cost, owing to the increased price paid to fishermen. The markets for the canned product have, however, been considerably better than in the two preceding years, & packers have thus escaped a loss, which otherwise would have resulted from the season's operations.

The coal output has been all that could be desired. The increased demand from San Francisco & the Hawaiian islands, as well as from other markets, has kept the collieries busy all through the year, & the prospects of continued activity are most encouraging.

We have little to add to the remarks in our last regarding the sealing industry, further than that the recent sales in London gave good results, & that the higher prices obtained have induced owners of a number of vessels, laid up during the past two years, to again engage in the business.

Statutes. Capital \$10,000. Chief place of business, Clark's Harbor, Cape Sable Island.

The Lakeside Shipping Co. has been incorporated under the Dominion Companies Act, with a capital of \$46,000, W. L. Lovitt, of Yarmouth, N.S., & others being the incorporators.

The F. B. Lovitt Shipping Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of \$12,000, W. L. Lovitt, of Yarmouth, N.S., & others being the incorporators.

Pickford & Black Steamships, Ltd., has been incorporated under the Dominion Companies Act, with a capital of \$600,000, & headquarters at Halifax. The directors are, R. Pickford, W. A. Black & G. W. C. Hensley.

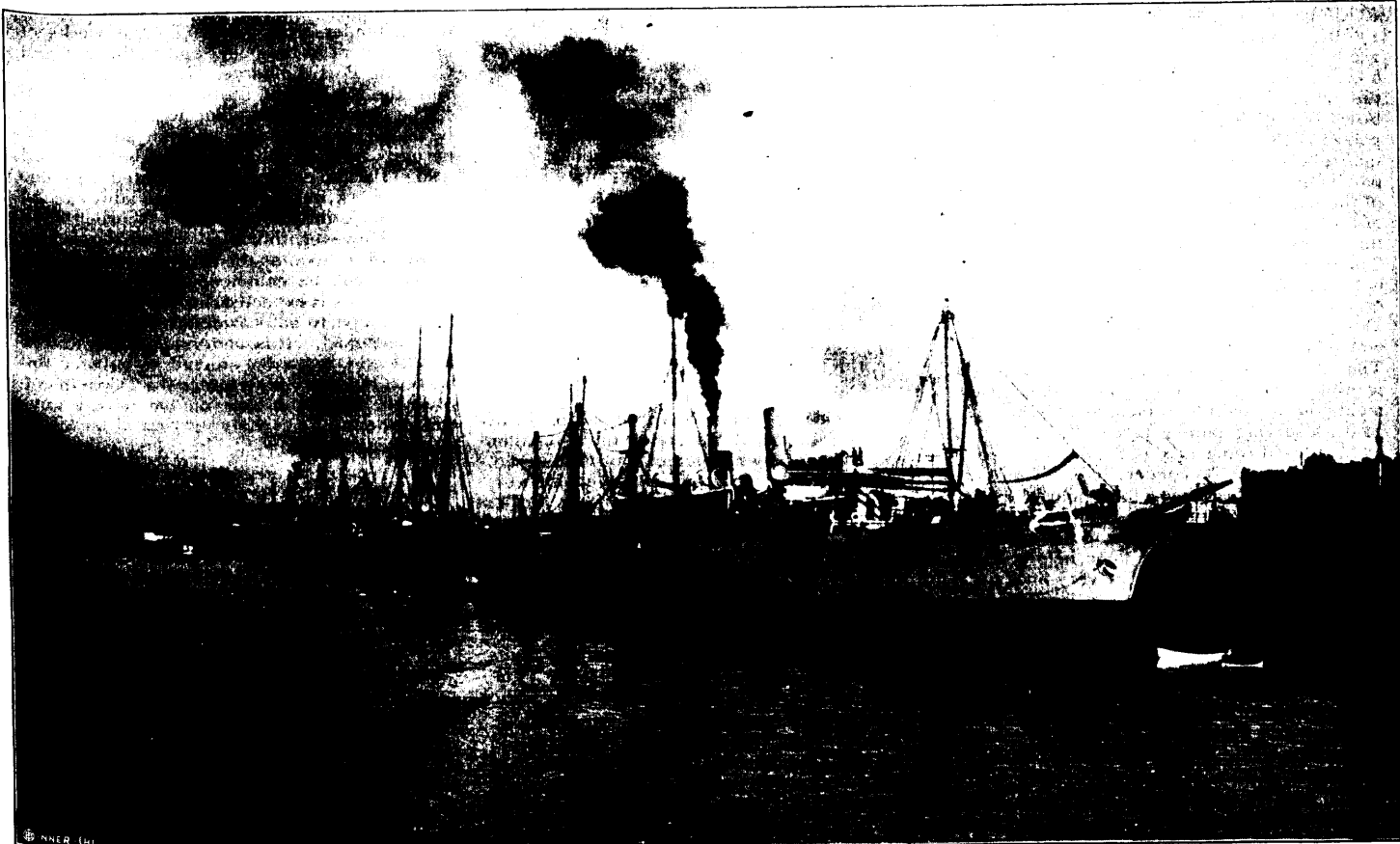
The str. Prince Edward has made her last trip of the season from St. John to Boston in the service of the Dominion Atlantic Ry. It is

are to be of not less than 1,000 tons net register, with accommodation for at least 30 1st-class passengers, with proper accommodation for the transport of mails, with a speed capacity of not less than 13 knots an hour, & fitted with adequate cold storage accommodation, on terms to be arranged with the Minister of Agriculture, similar to those accorded steamships running between Canada & Great Britain.

Province of Quebec Shipping.

A largely signed petition has been presented to the Montreal Harbor Commissioners, asking that the vacancy caused by the death of Harbor Master Capt. Howard be filled by the appointment of Capt. Bourassa, at present Acting Harbor Master.

Greenshields & Co., solicitors, Montreal, give notice of application to the Dominion



AT THE CANADIAN PACIFIC RAILWAY COMPANY'S DOCKS, VANCOUVER, B.C.

Other branches of trade have been prosperous, & the outlook for increased development in the various resources of the province is exceedingly bright.

The wharves at Vancouver have been very crowded lately, & it is said that the 500 ft. addition which is to be made to the C.P.R. wharves cannot be completed any too soon.

Maritime Provinces & Newfoundland.

It is said a new steamship line will be started in the spring between Boston & Hawkesbury or Sydney, N.S.

Navigation between Point du Chene & Summerside, P.E.I., was maintained until the end of Dec., which was unusually late.

The Cape Island Steamship Co., Ltd., has been incorporated under the Nova Scotia

reported she has received a southern charter. The Prince George has taken the Yarmouth-Boston route. The Prince Arthur will perform the Boston-St. John service during the winter.

The new str. Glencoe, of the Newfoundland Ry. fleet, is intended for the Labrador service, but during the present winter will run between St. John's & Halifax. Another steamer, the Argyle, will also reach St. John's during the present winter, & will be followed by a third, the Clyde. The Argyle will run between Placentia & Port au Basque, & the Clyde will ply between points on Placentia Bay.

Tenders have been invited for a monthly steamship service, including the carrying of mails, between Halifax & Kingston, Jamaica, calling at Bermuda & Turk's Island. The service is to commence in July next, & to continue for 5 years. The steamships employed

Parliament to incorporate the "St. Lawrence Terminal & Steamship Company," for the purpose of acquiring land, building & operating elevators, wharfs, docks & other works at or near Sorel, or some point on the Richelieu River; & to acquire & operate steam & other vessels, & to build & operate terminal lines of railway to connect with existing railways.

At a meeting of the Montreal Harbor Commissioners, Jan. 4, contracts were awarded for cut stone coping, cut stone for ashler, broken stone, cement & sand for the new wharves. In view of the Engineer's report that the present dredging plant would be fully occupied in the construction of the pier & shore wharf recently commenced, & that the extension of Windmill Point wharf to provide space for elevators, etc., & the building of the shore wharf opposite Bonsecours market, to allow the widening of Commissioners st. at that point, could not be undertaken next summer without

additional plant, the Harbor Improvement Committee recommended that steps be taken to construct an additional powerful dredge, a floating derrick & 4 scows. The report was adopted, it being understood that the Chief Engineer have the specifications for the new plant ready in a fortnight. It was also decided that when the contract for the dredge was given out it should contain a clause to the effect that if it was not constructed before July 1 it would not be accepted. It was decided to build the shore wharves of wood instead of concrete, as by the use of the former material the work would be expedited.

The hotel which the Richelieu & Ontario Navigation Co. has decided to erect at Murray Bay will be on the crown of the hill, within a few minutes walk of the pier. The building is to be shingle built & plastered throughout. The finish is to be natural wood. Electric lighting will be introduced throughout the building, & an artesian well will supply the water. The building will be 2 stories, & will have a length of 460 ft., with a depth of 176 ft., & there will be in the neighborhood of 250 bedrooms. The striking feature of the house is the space devoted to piazzas. On the main floor, & in the centre, the piazza bows out, giving it a width of 60 ft. The piazza is 284 ft. long, extending nearly three-quarters the length of the building, & in no part is less than 24 ft. wide. Another feature of the main floor is the fact that a large share of the apartments open in to one another, & the rooms themselves are each of large size. The main hall, in the centre of the structure, is 60 x 46 ft., the rear portion of which contains the office. There are three dining rooms. One is 90 x 38 ft., one 66 x 40, & a third, which is a private dining room, is 21 x 21 ft. The ladies' parlor is 60 x 35 ft., & there is a waiting room 21 x 21 ft. The other apartments on the main floor include a kitchen 32 x 30 ft., a serving pantry 32 x 16 ft., a bar 31 x 25 ft., a card room 15 x 15 ft., & a very spacious amusement & concert hall. There are also on this floor a few bedrooms, but, of course, the vast majority are on the floor above. The piazza, on the 2nd floor, follows the lines of that on the floor below, & the view from it cannot fail to be very fine, as it is sufficiently high to take in a large part of the surrounding country, as well as the river in front. The hotel will be ready for occupancy next summer.

Ontario & the Great Lakes.

The Brockville Navigation Co. has declared a dividend of 5%.

The final report of the New York State Canal Commission recommends that \$60,000,-

000 should be expended in improving the inland waterway.

The Lake Erie & Detroit River Ry. has secured a contract from the G. T. R. to convey the latter Co.'s coal by the car ferry Shenango from Conneaut, Ohio, to Port Stanley, Ont.

It is said the Dry Dock & Steel Shipbuilding Co. of Collingwood is closing contracts for machinery that it will lay the first keel early in May, & that it has orders in view for several steamboats.

A successful trial has been made of the electric plant & lights of the Soulages Canal. The plant will furnish light & power to open bridges & lock gates. All locks, bridges & offices will be connected by telephone.

The Ottawa Forwarding Co.'s screw steamer Welshman is being practically rebuilt at the canal basin Ottawa. New machinery will be installed, and the present engines will be replaced with ones a third stronger.

The Hamilton Harbor Board has suggested to the Dominion Department of Public Works that auxiliary power be provided to swing the bridge at Burlington Beach in the event of any accident to the line of the Radial Electric Ry.

The Montreal, Ottawa & Georgian Bay Canal Co. has given notice of application to the Dominion Parliament to amend its acts by increasing the number of directors & extending the time for the commencement of the construction of the canal.

Toronto Harbor was frozen over on Dec. 29, 1899, 16 days later than in Dec., 1898, when ice formed earlier than in any year since 1887, & the harbor was not open until April 8, 1899. Ice covered the bay for 116 days last year, the longest period the harbor had been closed since 1893.

The Rideau Lakes Navigation Co., Ltd., has been incorporated under the Dominion Companies Act, with a capital of \$1,000,000, the incorporators being D. Noonan, J. Swift, & H. W. Wilson, of Kingston, Ont., C. R. Church & G. E. Kidd, of Ottawa, & M. Zimmerman, of New York City.

Building operations will be commenced this month at the canal basin at Ottawa on a government dredge. The plans prepared for the Public Works Department call for a vessel similar in build & dimension to the dredges Ontario & Rideau, now in the basin. The cost will probably be about \$12,000.

Adam Mackay, who went to Great Britain to order two steel steamers for the Hamilton & Fort William Navigation Co. has returned to Hamilton. He reports that everything is going well with the construction of the boats. One of them is being built at Dundee, & the

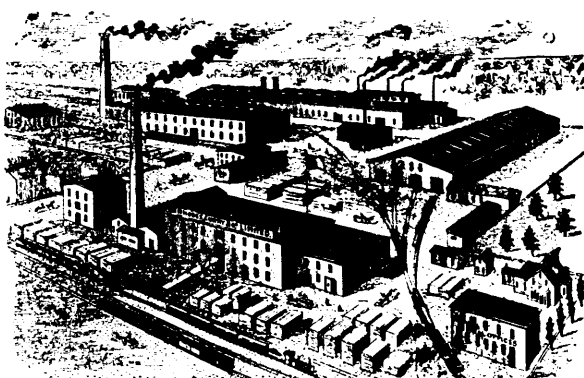
other at Newcastle. They will be ready about June 1, & will be 255 ft. long.

Notice is given of application to the Ontario Legislature for an act to incorporate the Wahnapiatae & Metagamishung Lumber Co. Among other things asked for is the power to construct a canal or waterway between Lakes Wahnapiatae & Metagamishung, in Nipissing district, & to erect a dam at the head of Sturgeon River & raise the waters of Lake Metagamishung.

The Canada Atlantic Ry. Co.'s charter of 5 Menominee line package freighters having expired, & the boats having been returned to the National Steel Co., the C. A. Co. now has only 2 steamers, the Arthur Orr & the Geo. Orr. Negotiations are said to be in progress for procuring 2 additional steamers for next season's grain trade to Depot Harbor, & the Co. will probably build a large steamer in Toronto, so as to have a total carrying capacity for about 1,000,000 bush. of grain.

The Dominion Department of Public Works invites tenders up to Jan. 26 for the works of improvement at the upper end of the Welland Canal at Port Colborne. In a recent interview the Minister of Railways & Canals said: "The channel approaching to the canal is to be deepened to a depth of from 20 to 21, & perhaps 22 ft., & the pier is to be extended also. Parliament has appropriated \$300,000 for this work, but the cost will probably exceed that, for we intend to make a thorough job of it. However, this is all we can spend up to July, & as soon as the contracts are awarded work will be commenced. If the traffic increases, as is expected, further harbor facilities will have to be provided & the harbor further deepened. It is understood, too, that a breakwater is to be erected to protect the harbor, but this comes under the Department of Public Works, & I am unable to say anything about it."

U.S. Secretary Long stated in his recent annual report that negotiations were pending between the U.S. & Great Britain to overcome the treaty inhibition against building warships on the Great Lakes. The negotiations to which he referred were those carried on by the Joint High Commission, which dealt with Canadian affairs. The U.S. members of that Commission put forward a plan for permitting the lake shipyards to build warships, with the understanding that the vessels would not be fitted up & remain on the lakes for naval service. This was accepted by the Canadian delegates, with the additional provision that the armor should not be placed on the warships until after they have reached salt water. This provision would probably have been incorporated in the final arrangement had not the commission failed of an agreement



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* Bearing Wheels. * *

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To Los Angeles and Southern California.

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because of the Alaskan boundary trouble.—
Marine Record.

Engineer G. W. Rafter, in charge of the survey for the proposed ship canal from the Great Lakes to the Atlantic ocean, has completed his preliminary work & drawn up his report. The project is to cut a canal 30 ft. deep & 340 ft. wide, which is 3 1-3 times the depth, & 5 times the width of the Erie canal, from Lake Erie to Lake Ontario around Niagara Falls, leaving Lake Ontario at Oswego, through the Oswego river to Oneida Lake, thence through the Mohawk Valley to the Hudson River. A single lock will be 1,000 ft. long, with walls over 50 ft. high. The greatest problem has been to find storage for water to feed this great canal on its various levels, & yet not affect the water supply of manufacturing concerns now using various rivers. Mr. Rafter plans a great dam at Carthage, on the Black River, in Jefferson county, making a lake covering 80 square miles of land to feed the canal. From this reservoir Mr. Rafter has located a canal 90 miles long, as wide as the Erie, to the proposed ship canal just west of Rome, & on the way down has planned a secondary reservoir in the Salmon River. The commission's work also includes a similar survey for a canal of the same character, leaving the St. Lawrence River at the head of the Coteau Rapids & thence into & through Lake Champlain.—Marine Record.

The U.S. War Department is asking Congress for \$20,000 additional for the survey & examination of a great waterway between the Great Lakes & the Atlantic Ocean. Its work involves plans for the control of the level of Lake Erie by dams at Buffalo, the development of the St. Lawrence River, the improvement of the Hudson, & other surveys & examinations. The Deep Waterways Commission asks this \$20,000 in addition to the \$465,000 formerly appropriated. The importance of the commerce of the Great Lakes is increasing every day. The growth of lake traffic practically swamped it; in 1898 it seemed to be too great for the trade; in 1899 the Duluth News-Tribune pertinently states: "With more than half the country's tonnage of steamers exceeding 1,000 tons register, on the lakes, any attempts to deny that the welfare of the lake trade is vital to the nation would be futile. The traffic through the 'Soo' canal dwarfs the business of the great Suez waterway. Whatever may be the fig-

ures of one season in lake trade, the next is sure to surpass it." With such a showing it is not likely that the demands of the Deep Waterways Commission will be overlooked by Congress, even though the river & harbor bill should fail.—Marine Record.

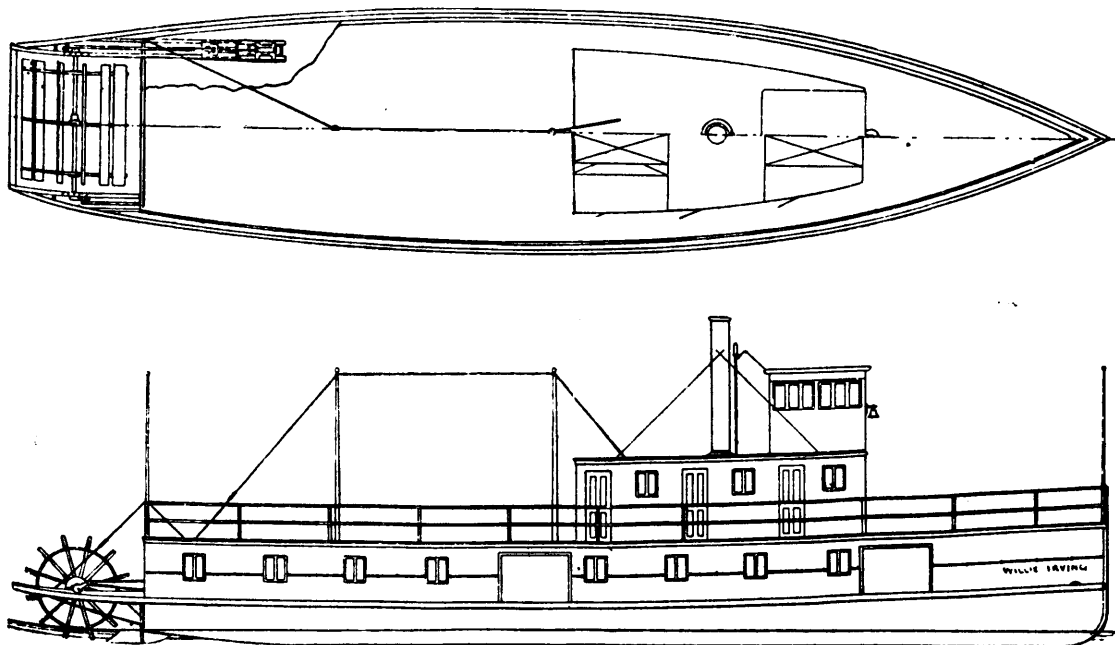
Yukon & Northern Navigation Matters.

A Dawson correspondent writes: "One of the curious features of this winter's trip from White Horse to Dawson is the large number of scows frozen in the ice. Over 100 may be counted on the trip down. Many of these are deserted, some almost snowed under, but each is laden with freight. The commanding officer of the Northwest Mounted Police has given instructions that the police at the various river posts patrol these scows, & thus prevent looting."

F. E. Burns, who is interested in the Alaska Steamship Co. & has been for a year or two on the Yukon interested in navigation, is quoted as follows: "The flyer which we are to add to the Skagway-Puget Sound run, is being built on the Atlantic coast under the direction of W. Oakes, president, & George Lent, another member of the Co., & formerly chief engineer of the Dirigo. The ship is to be a twin screw, tripe expansion craft. She will have accommodation for 250 passengers & 800 tons of freight, & will enter the trade to compete with the fastest comers. The fleetest craft on the run to-day makes 14 knots. Our craft will make 18 knots. She is being constructed with an eye to having her especially adapted to the Sound & Skagway run. The saloon will sweep from stem to stern & be surrounded by the cabins, which will be so arranged that one door will open from each room into the saloon & one on the promenade deck, sweeping about the outer part of the ship. She will be practically the same as the City of Seattle on the passenger deck, with the exception of the room for the promenade all around the outside, and the addition of doors opening to the outside. The main deck will be arranged for the convenient handling of cattle as well as freight. The hull of the craft will be large in the oval, thus affording greater freight space than found in the sharper bottom, and allowing the vessel to sit higher in the water.

The sudden fall, a little while ago, in the value of their shares may have prepared the

proprietors of the Bennett Lake & Klondike Navigation Co. for a crisis in the affairs of that undertaking. It has come—but combination with other and practically-identical interests is a better alternative than a forced liquidation of what are really valuable assets. We can all be wise after the event & and to now criticise the policy of the directors would be of no avail in anyone's interests. The board has clearly been misled, we may say deceived, & it should command ready support in its efforts to fix the responsibility for the present disappointing position. That, at least, one member of the local advisory board in Victoria will have to leave is likely; but Mr. Flocton, the Co.'s Manager, appears also to have been considerably in error. He, from time to time, advised the directors of the work done, and of the probable results, & less than a month ago reported to them that the net earnings of the steamers Ora, Nora & Flora amounted to \$103,000. Instead of being able to remit money to England, which he foreshadowed as recently as Nov. 7, he now states that he had underestimated his expenses, & that he requires a considerable sum to be sent from England to enable him to pay pressing liabilities in Victoria, pending the collection of moneys due from the northern stations. Being thus unexpectedly called upon to provide further capital the directors considered whether it would be possible to avoid an assessment of the shares by raising money upon mortgage to provide for immediate requirements & for next season's trade, in regard to which it is tolerably certain that the steamers will again prove their great earning capacity. The assets, however which include a considerable sum due from freight, etc., being in remote parts of Canada, are not available for the purpose of raising a loan, & an outline of the accounts cabled from Victoria unfortunately confirms the Manager's unpardonable inaccuracy. The explicit statement of Mr. Lowles, M.P., to the shareholders showed that amongst other beneficial results, which may be expected, there will be a very large reduction of nominal capital & also of administration expenses. Having regard to all the circumstances the scheme seems just & equitable for all concerned, for to liquidate in view of prospects would appear like an act of commercial suicide. The amalgamation scheme is framed to take over the assets and liabilities of three companies: The Bennett Lake, The Klondike Mining, Trading & Transport, & the Klondike Goldfields, or such of them as decide to join in the amalgamation. The meetings in London on Dec. 27 occupied almost the entire day, & at only one was there any suggestion of a committee being appointed. It is so evident that more can be done by fusion that opposition is illogical. It is proposed to call the new undertaking the Klondyke Corporation, Ltd., with an authorized capital of £200,000, or other suitable amount, in shares of £1 each. Shareholders in each of the companies amalgamated, will be offered in exchange for each £1 share fully-paid now held, one share of £1 in the new company credited with 17s. paid up thereon, & having 3s. per share liability. This small amount will be called up in the smallest possible



STERNWHEEL STEAMBOAT WILLIE IRVING, BUILT FOR YUKON RIVER TRADE.

sums, while it is anticipated that holders of considerable blocks of vendors' shares will be unable to avail themselves of this arrangement, to the greater advantage of the other shareholders.—B.C. Review, London, Eng., Dec. 30.

The str. Willie Irving, which was wrecked on the Yukon River above Dawson in Nov. was so typical a boat that a description of her, which is condensed from Marine Engineering, will be of interest. She was built at Portland, Ore., boat & machinery being shipped to Skagway in knock-down shape in such form that the whole was safely transported over the White Pass, & the boat re-erected and launched at Lake Bennett. Her owner, Capt. E. W. Spencer, of Portland, after investigating the dangers of Miles Caynon & White Horse Rapids, decided to take her to Dawson. He was warned that it would mean destruction for the boat & death for the crew, but he had navigated on swift waters before & felt sure of himself & his boat. He knew there was sufficient depth of water, & that safety depended upon maintaining perfect control of the craft. After a few short runs on Lake Bennett & tributary waters to test her machinery & steering qualities, a start was made down the river with a load of passengers & freight for Dawson. The exciting run was made safely without causing a mishap, & he arrived at Dawson with passengers & cargo in fine condition. The receipts from freight & fares more than equalled the entire cost of boat & supplies. At Dawson Capt. Spencer was offered a price for the steamer, & as it represented a clear & quick profit on his enterprise he accepted. Her new owner made 10 trips between Dawson & White Horse Rapids during 4 months last season with receipts of \$127,668.00—an unusual amount for an 80 ft. steamer, even for river service, in a land of high prices. The boat proved to be a large carrier, stiff & speedy, & a close & easy handler in swift water. Her average time on the up river trip was 7 days. When it is considered that no piece or part of boat or machinery or outfit was so heavy that 2 men could not transport it over White Pass, or any timber or section over 24 ft. long, it will be apparent that the construction was peculiar. The upper works consisted of a single cabin the full length from the stem to stern, with pilothouse & texas. The cabin floor or main deck was carried 20 ins. below the guard, this being necessary on account of the variable & violent winds that cause much trouble to navigators on Lake Bennett & tributary waters. Some of the details of construction follow: Keel, 1½ ins. by 8 ins., in 4 pieces, butted between frames: frames, 2½ ins. by 2½ ins., bent oak, set at 20 in. centres—when shipped these frames were held to form by wires instead of cleats, to lighten weight & lie together more

compactly: Floors of Oregon pine, 2½ ins. by 2½ ins., bolted to the frames, with 4 screw bolts in each frame: Centre keelson of three 1½ ins. by 8 ins. timbers set on edge & bolted through & through, making it as stiff as a solid stick: Side keelson of two 1¼ in. by 10 in. pieces set on edge, & bolted through like centre keelson: Centre keelson fastened with 2 bolts through each floor stick: Cylinder keelsons 4 pieces 4 ins. by 6 ins. by 20 ft. long: Stem of oak re-enforced with a knee of Oregon pine: Clamps & also sheer 1 in. by 8 ins. Oregon pine: Shelf, 2½ ins. by 2½ ins.: Bilge strakes 2½ ins. by 5 ins.: Cross keelsons 2½ ins. by 2½ ins. every 10 ft., set on top of fore & aft keelsons, with knee at each end bolted to bilge strake, clamp sheer & frame: Deck placed on a level with these cross keelsons; decking of 1 in. lumber laid athwartships, resting on stringers laid on the fore & aft keelsons: Bottom planking 1½ ins. by 12 ins.; Side planking 1 in. by 5 ins.: Transom 2 ins. by 12 ins.; Knees used to strengthen the frame & planking all butted between frames. The vessel is fitted with three balanced rudders. The entire skeleton of the hull was put up with carriage bolts when erecting it at the Portland boat yard. The holes were all drilled full size, but the bolts used were 1-16 ins. smaller in diameter than those put in at final erection, thus avoiding undue strain to the lumber & facilitating taking down. The total amount of lumber used in the completed boat was 8,800 ft., being principally choice Oregon pine, & the results have proven that it was all put where it did the most good. The engines were two 7 ins. by 28 ins. double ported, balanced piston valve, direct acting, stern wheel engines. They were installed with their auxiliary bearings built on to the steel wheel & engine beams. When constructed they were fitted & lined up complete in the builder's shop & run by steam pressure under approximately the same conditions as when installed in the boat. The wheel was 9 ft. 9 ins. dia., with buckets 9 ft. long & 13 ins. wide. There were 12 of these, each 1½ ins. thick. With 200 lbs. steam pressure & 36 engine revolutions a minute the boat attained a speed of about 12 miles an hour. The steel stern wheel shaft was 3¼ ins. dia., in 2 sections, the steel coupling forming also the central paddle wheel flange. Steam was raised in a water-tube boiler which was built for 250 lbs. maximum pressure per square inch. The boiler was fitted with an extra deep fire box for burning wood. Auxiliaries included an outside packed plunger steam boiler feed pump, such as is supplied for use with gritty water, also injector, test pump, sea cocks, bilge syphons, & an independent feed water heater, all arranged with special reference to the service for which the Willie Irving was

built. Another steamer, the Scotia, practically a duplicate of the Willie Irving, was completed last fall for Capt. Spencer at Portland, the machinery consisting of a pair of 7½ ins. by 28 ins. double ported balanced piston valve engines built on to steel wheel & engine beams. This new boat equals, & perhaps exceeds in general efficiency & speed the Willie Irving, & though she is a trifle heavier craft, her machinery represents an increase of about 18% in power. Her actual total weight, inclusive of cabin & upper works, is 59,000 lbs., being just 12,000 heavier than the Willie Irving, the hull measurements of the 2 boats being the same. The Scotia's paddle wheel is 10 ft. 3 ins. dia. outside of the buckets and 9 ft. 4 ins. long. Each of the 12 buckets is 12 ins. wide by 1½ ins. thick.

The Georgian Bay Trade.

In reference to the past season's trade, the Parry Sound Canadian says:—"It has been phenomenal, as far as traffic on the Canada Atlantic Ry. is concerned. From early in the spring, when navigation opened until its close, the boats have been steadily running on the lakes, connecting with the C.A.R. at Depot Harbor & giving employment to a large staff. It is estimated that 12,000,000 bush. of grain have been sent out of Depot Harbor this season, & the elevator now contains another 1,000,000 bush."

The Owen Sound Times says:—"The season of navigation just closed has been prosperous & successful beyond its predecessors in many respects. From a business standpoint it has been the most prosperous in years. Freight has been plentiful & rates high. Another feature for congratulation has been the comparatively few losses compared with last year. Particularly is this feature marked with respect to the local lines. In 1898 the Great Northern Transit Co. lost the steamers Pacific & Northern Belle by fire, & with its sister company, the North Shore Navigation Co., suffered several more or less serious accidents during the season. For 1899, \$100 will cover any injuries the steamers of the Northern Navigation Co. have sustained during the entire season. The C.P.R. fleet has also come through without serious mishap. With the exception of the damage resulting from the conflagration of the Athabasca, in Aug., nothing worth mentioning has happened. The Manitoba sprung her rudder & spent a day in Collingwood dry dock, but the damage was trifling & the trip to Collingwood did not put the big steamer behind in her runs. The Alberta came off clear. The City of Windsor ran on a shoal near Killarney & had to lay up a few days for repairs, but beyond this, had no mishap during the season. The year 1899 will certainly be remembered as one of exceptional freedom from disaster."

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Export Elevator, Buffalo, N.Y.	1,000,000	
J. R. Booth Elevator, Depot Harbor, Ontario	1,000,000	
Cleveland Elevator Company's Elevator, Cleveland, O.	500,000	
Erie R. R. Transfer & Clipping House, Chicago, Ill.	100 cars in 10 hrs.	
Manchester Ship Canal Co.'s Elevator, Manchester, Eng.	1,500,000	
Burlington Elevator Co., Peoria, Ill.	500,000	
Canada Atlantic Railway Elevator, Coteau Landing, Que.	500,000	
Northern Grain Co., Manitowoc, Wis.	1,350,000	
Union Elevator, East St. Louis, Ill.	1,100,000	
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Shipbuilding in Toronto.

The following work is in hand at the Polson Iron Works :—

A 53 ft. open composite steam launch with canopy, fitted with triple expansion engines, 4½ ft., 7½ ft., 12 ft. by 7 ft., & Yarrow boiler, independent air pump & condenser. Framed with steel, planked with B.C. pine, highly finished & richly upholstered. This is for the Rev. Elmore Harris, Toronto.

A 55 ft. 8 in. by 8 ft. by 3 ft. 6 in. composite steam yacht, with enclosed cabin & overhead canopy, fitted with triple expansion engine & Yarrow water tube boiler, independent air pump & condenser, steel frames, B.C. pine planking, hardwood oil finished throughout inside, & handsomely finished, including carpets, curtains, etc.

A 34 ft. stern wheeler, composite construction, with overhead canopy, horizontal engines, Yarrow boiler & feathering wheel. The boat has been built to test the qualities of a new feathering bucket, manufactured & patented by the Polson Iron Works. The essential feature of this wheel is that the buckets are adjustable, so as to be vertical at every position of the revolution of the wheel. A series of experiments have been begun, in order to enable a comparison to be drawn between this wheel & an ordinary radial wheel. These experiments have not been completed owing to the cold weather, but will be carried on in the spring. Sufficient information has, however, it is said, been obtained to prove the immense superiority of this type of wheel, & it is believed that the new wheel is as much of an improvement over the ordinary feathering wheel as the latter is over the ordinary radial wheel.

A composite steam cutter, 36 ft. by 9 ft. by 3 ft., with fore & aft compound engines, & vertical submerged tube boiler. This is for Geo. Gooderham, Toronto.

The composite steam barge, Sir Leonard H. Tilley, which was seriously damaged by fire upon Lake Erie last fall, & purchased by J. & J. T. Matthews, of Toronto, from the insurance companies, is under repair at this yard. The vessel had all her upper works & top sides burned away, & as she was carrying a heavy deck load of cement, the whole of the heavy iron deck beams, stanchions ties & stringers became crushed downwards, whilst heated, by the heavy weight of the cargo, & were so bent, buckled & twisted as to pull the vessel's sides out of shape. The cutting out, restoring the metal, etc., & the ship's hull to the original form, & replacing the various parts constituted a job of no mean importance. This portion of the work, together with some structural changes & improvements, has been completed successfully, & the vessel's framework is now in as good condition as when she was first built. A new steel main deck will be laid, & the new top sides, planking & upper works will be proceeded with immediately, so as to bring her out in time for the opening of navigation. Owing to the exceptionally heavy section in the deck frame in this vessel, the straightening & refitting of her beams, etc., has been a much harder job than that of building a new one for a large lake steamer, but owing to the excellent facilities provided at this yard, the work has been well & quickly done.

All the above mentioned work is from the designs & under the superintendence of W. E. Redway, naval architect, Toronto.

Joliette Station Robberies.—For the third time within the last two years the C.P.R. station at Joliette, Que., has been broken into & the safe blown up, & anything of value that it contained removed. The new station was entered on the night of Dec. 31, the door being forced open & the safe blown up. The tickets & other valuables, together with express parcels were stolen.

A C.P.R. Construction Reminiscence.

We have just come across, in a clipping from a Winnipeg paper of June, 1882, a skit by "the Khan" which is worth reproduction. It may be explained that when the C.P.R. prairie section west of Brandon, Man., was under construction in 1882, Flat Creek, now known as Oak Lake, was the chief yard & supply point. Things got into a very mixed up condition there & one day the newly appointed General Manager Van Horne paid the place an unannounced visit, discharged most of the staff & installed a new lot in about as short a space of time as it takes to write these few lines. This is what "the Khan" had to say about it :

"The C.P.R. up here may very properly be called the innocent railway. The trains run in a kind of go-as-you-please style that is anything but refreshing to the General Manager. It is not for want of officials at the end of the line, goodness knows. There are enough clerks, etc., there to build the road for that matter, if hands run short. Their chief occupation appears to be to trip over one another, & go in search of some person while the train hands go duck shooting in the 'mash,' & the engineers fall asleep. If you go to Flat Krick never want to know. If you want to know anything the officials will look upon you as an enemy of your race sent there by their enemies to torture them. If you 'want to know,' they 'don't know.'

"'I don't know,' is a mournful sound which is reverberating through Flat Krick all the time.

"'When is the train coming in?'

"'I don't know.'

"'Where is the yardmaster?'

"'I don't know.'

"'Is this Flat Krick?'

"'I don't know.'

"'How long have you been dead and buried?'

"'I don't know.'

"But when Manager Van Horne strikes the town there is a shaking up of old bones. He cometh in like a blizzard & he goeth out like a lantern. He is the terror of Flat Krick. He shakes them up like an earthquake, & they are as frightened of him as if he were the old Nick himself. Yet Van Horne is calm & harmless looking. So is a she mule, & so is a buzz saw. You don't know their true inwardness till you go up & feel of them. To see Van Horne get out of the car, & go softly up the platform, you would think he was an evangelist on his way west to preach temperance to the Mounted Police. But you are soon undeceived. If you are within hearing distance you will have more fun than you ever had in your life before. He cuffs the first official he comes to, just to get his hand in, & leads the next one out by the ear, & pointing eastward informs him that the walking is good as far as St. Paul. To see the rest hunt their holes and commence scribbling for dear life is a terror. Van Horne wants to know. He is that kind of a man. He wants to know why this was not done & why this was done. If the answers are not satisfactory there is a dark & bloody tragedy enacted right there. During each act all the characters are killed off & in the last scene the heavy villain is filled with dynamite, struck with a hammer, & by the time he has knocked a hole plumb through the sky, & the smoke has cleared away, Van Horne has discharged all the officials & hired them over again at lower figures."

Crow's Nest Pass Electric Light & Power Co.—Davis, Marshall & MacNeill, solicitors, Vancouver, give notice of application to the B.C. Legislature for the incorporation of a company under this name, for the purpose of using & supplying power, light, & heat by compressed air, electricity, water or other motive power; also to construct, maintain,

& operate tramways, electric railways, & ropeways & telephone systems in Kootenay district.

ELECTRIC RAILWAYS.

Maritime Provinces & Newfoundland.

Moncton St. Ry. & Power Co.—G. E. Lovejoy & C. A. Flaherty, of Boston, have been looking over this property, possibly with a view to purchasing.

Sydney, N.S. D. J. Kennedy has applied to the Town Council for a street railway franchise.

Quebec Electric Railways.

Hull Electric Co.—The Quebec Court of Appeal has reversed the judgment of the Court of Review & confirmed the judgment of the Superior Court in the case of the Ottawa Electric Co. & the Hull Electric Co. By the present judgment the Ottawa Co. is declared to have the right to compete with the Hull Co., the by-law of the city of Hull giving exclusive rights to the Hull Co. is declared to create a monopoly, & the act of the Legislature confirming the by-law is declared to be unconstitutional.

Matane & Little Metis.—Dr. Bouillon, of Matane, has written the press on the subject of an electric tramway for Matane & Little Metis village, calling attention to the fact that, with the exception of two, every municipality from Matane to St. Flavie has voted the right of way & exemption of taxes for the construction of the road in the county of Rimouski. He contends that the construction of an electric tramway from the Intercolonial Ry. passing through Little Metis would leave \$20,000 in each municipality. The population desiring the road is 20,000, & the municipal valuation for that portion of the inhabitants is \$1,250,000.

The Montreal Park & Island Ry. recently gave notice that owing to the increased population of suburban towns reached by its lines, it had decided to inaugurate a freight service over the whole of its system, & had gone to considerable expense in building cars, also a large electric locomotive, & would handle all kinds of freight to any point on its system. The service commenced Dec. 21.

Montreal St. Ry.—The gross earnings are :

	1899.	1898.	Increase.
Oct.	\$145,877.20	\$133,619.63	\$12,257.57
Nov.	133,480.12	125,125.09	8,355.03
Dec.	137,681.19	127,768.38	9,912.81
	\$317,047.51	\$286,513.10	\$30,534.41

The Quebec Court of Appeal has dismissed the appeal & confirmed the judgment of the Superior Court dismissing the action in the case of J. A. Bell et al vs. the town of Westmount & the M.S.R. Co. Plaintiffs sought to set aside a by-law of the town of Westmount, & the contract passed under its provisions, for the purpose of enabling the M.S.R. Co. to operate its railway within the limits of the town.

It is expected that the dispute between the city & the Co. respecting the removal of snow from the streets will be amicably settled.

It is said the directors are considering the question of providing special cars for smokers. Edward Rooney, a laborer, has been awarded \$150 as damages against the Co. In 1898, while laying tracks, Rooney, with others, was carrying a rail weighing some 750 lbs. Through a misunderstanding as to where the rail was to be dropped, due, plaintiff alleged, to the absence of the foreman, his toe got caught under the rail & was smashed. He sued for \$1,000. The Co. set up a signed discharge in full from the plaintiff as relieving it of liability, while denying that there was any negligence on its part. The court held that the discharge signed by Rooney was understood by him to be a re-

cept for his wages while off work, which belief would be induced by all the circumstances. As to the merits of the case, the Co. should have provided tongs for lifting rails, or else a foreman should be stationed in such a position that all the men could see him when dropping a rail, & he should take extra precautions.

W. Pont, foreman of the Co.'s Hochelaga car sheds, has invented a device for removing snow from the tracks. It is a large wing attached to one of the new snow sweepers. The wing is about 12 ft. long, & is attached to the off side of the sweeper near the rear. After the brushes in front of the sweeper throw the snow up off the track the wing comes along & throws it back to near the sidewalk, so that sleighs in crossing the tracks will not throw the snow back on to the tracks again. It is claimed it will also do away with a great deal of shovelling.

Montreal Suburban Lines.—The town of St. Paul, the parish of Longue Pointe, & the village of Beaurivage de la Longue Pointe, give notice of application to the Quebec Legislature for power to secure the construction of electric railways within their respective boundaries, & also to connect with Montreal.

The Montreal Terminal Ry. recently laid down a siding on Davidson St. for the accommodation of the Dominion Cotton Mills Co. Permission to lay it was asked from the City, but the granting of this being delayed, the Co. went ahead & did the work.

Quebec Ry., Light & Power Co.—The Railway Committee of the Privy Council having granted permission to the Co. to cross the C.P.R. track, the extension from Aqueduct St. to St. Charles Cemetery is being operated. Everything has been purchased for the electric conversion of the steam road, with the exception of the copper required for overhead construction & feeders, & the work will be pushed to completion as soon as weather will permit in the spring. (Oct., '99, pg. 306.)

Ontario Electric Railways.

Brantford St. Ry.—At Osgoode Hall, Toronto, Jan. 3, judgment was given in the case of Meyers vs. this Co., on motion by plaintiff to set aside judgment of non-suit entered by Boyd, C., at Brantford, & for a new trial. Action for damages for injuries sustained by plaintiff, whose team of horses was frightened by a motor car of defendant. The team driven by plaintiff was stopped at a G.T.R. crossing to allow a train to pass, & plaintiff then waved his hand to the motorman of an advancing motor-car of defendant, with the alleged intention of stopping it; the car, however, did not stop, & the team ran away. It was also alleged that the motorman, meeting the same horses two weeks previously, & observing their fright, stopped the car to allow them to pass. It was contended for defendant that plaintiff had not shown any negligence on part of defendant, which was operating its line with reasonable care, & that the trial

judge was right in holding that, under the circumstances, no cause of action was shown. Held (Street, J., dissenting), following & applying the law as laid down in *Ellis vs. Lynn & Boston R.R.*, 160 Mass., 341, that the case was improperly withdrawn from the jury. The fair inference from the evidence is that the motorman saw that the horses were becoming frightened by the moving car, & were likely to become unmanageable, & that he saw the signal to stop & understood it, & it was therefore his duty to do what he reasonably could to avoid the obvious danger.

Per Street, J.—It can hardly be held that a motorman is bound to observe & remember, in addition to his other duties, the behavior of all the different horses he may pass in the course of a fortnight upon the streets of a town. There is nothing in what the motorman here is proved to have done, which a reasonable man might not reasonably & properly have done, & he was not guilty of negligence. New trial directed. Costs of former trial & of this motion to be paid by defendant forthwith after taxation.

Fort Erie to Chippawa.—On Dec. 21 we were officially informed that the Ontario Government had approved of the terms arranged between the Commissioners of Niagara Falls Park & the Fort Erie Electric Ry. Co., & that an agreement was being prepared in the following terms: The Co. to purchase & dedicate to the Crown all the land that is required along the banks of the Niagara River from Chippawa to Slater's Point, in order to make a full chain in width from the water's edge, where at some points the original reserve is washed away entirely, & at others reduced to a width that is barely passable by carriage. The Co. to construct protective works at all necessary points in order to prevent the chain reserve from further erosion by ice or water. The Co. to lay its rails on the easterly or river side of the reserve, & the roadbed, track & equipment to be approved by the Commissioner of Public Works. The Co. to construct, grade & properly form & roll to hard-finish the new road to the west of the railway for vehicular & pedestrian traffic, which is to have a width of at least 40 ft. from the railway track; also to construct bridges, culverts & openings to the water in a manner to be approved of by the Commissioner of Public Works. The Government & the Park Commissioners to have full access to the water lots over the railway & farmers & owners of properties along the line to be allowed to have the existing rights for watering stock, &c., the lease to be for 20 years. The Co., in addition to acquiring & dedicating the chain reserve to the Crown & protecting the shore line, to pay annual rental for the first 7 years of \$1,000 a year; for the next 3 \$1,200; for the next 5 \$1,500; & for the next 5 \$2,000 a year. The time limit for the completion of the work has not been determined, but it is expected to have the line built during 1900, so as to handle traffic for the Pan-American exhibition at Buffalo. The general promoters of the scheme are B. & E. Baxter, Interna-

tional Bridge, Ont., & Manager Fernyear, of the Westinghouse Electric Co., Buffalo. They have New York connections interested with them, but the Commissioners are not yet at liberty to give the names. (Nov., '99, pg. 336.)

Galt, Preston & Hespeler St. Ry.—W. E. McBride, of Galt, was awarded \$10 damages by a jury at the quarter sessions in Berlin, Dec. 13, in his \$200 action against this Co. for alleged wrongful ejection from one of the Co.'s cars. The Co.'s counsel contend that it was not a case for a jury, & this is now under consideration. The question of costs remains to be argued. The plaintiff states that he paid his fare, while the conductor is equally certain that he did not. In this connection the Co. says that the dispute is between McBride & the conductor.

The Hamilton Consolidated Lines.—C. K. Green, Manager of the Hamilton Radial Electric Ry., has been appointed Traffic Manager of the three electric railways recently consolidated by the Cataract Power Co. J. B. Griffith, Manager of the Hamilton St. Ry., has been given the management of the purchasing department for the consolidated lines.

J. Patterson, the chief promoter of the consolidations, has written a letter to the press in regard to right of way for the proposed road to Berlin, Galt & Waterloo, & the other to Guelph & intervening points. He says: "The road to Guelph is intended to give a service each way each hour, & in order to do that the Co. proposes building a road equal to any railway in the country, except in the matter of gradients. The cars on this road must make the through trip in 50 minutes & return in the same time, so that 2 trains will complete the service & give 16 trains each way every day, carrying both passengers, freight & express matter. Similar arrangements will be made for alternate trains to Galt, Preston & Hespeler & to Galt, Preston, Doon, Berlin & Waterloo, & an hourly service at all times provided for, in addition to the trains that may be necessary for the handling of heavy freight. The line will be double-tracked until the top of the high ground some distance back from Rock chapel is reached, so that all cars going up grade will run on one track, & all down grade on the other, avoiding to a very great extent danger of accidents.

"This is the reason of double tracking as much as the fact that at each hour cars from both lines must pass each other in the near vicinity of the city, & delays on the sidings cannot be made up to any extent on the running time. Any one can see that if we are to provide any such service as we propose—one that will appeal to every business man as superior by 500% to anything ever offered within their memory—it will be absolutely necessary that we can get in & out of the city at a fast rate, & that we do not have to stop for every farmer's team we meet on the road. This is also why we wish to get the Dundurn route for fast running, & why we do not in any case use the highways through the whole

CONTINUOUS RAIL JOINT COMPANY OF AMERICA,

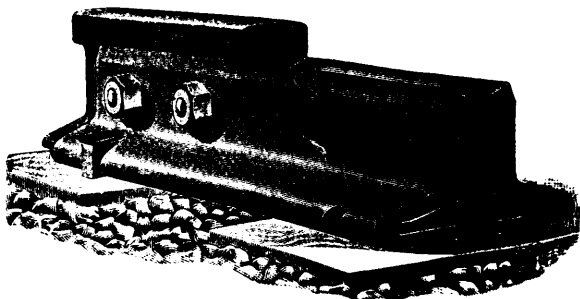
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length of the lines except in passing through towns, cities or villages. Hamilton, for railway purposes, is unfortunately situated at its western extremity, & there are only two routes that can be used. One is at the north of Dundurn & the other along York st., leaving it east of Dundurn, & buying a strip of ground as straight as possible to Vine st., or widening York st. to Queen & then purchasing private right of way. No line having abrupt curves will be taken into account & there must always be a clear lookout for a considerable distance ahead or speed cannot be maintained, & the time-table would require exactly double the number of cars, men & expenses, & very nearly double the amount of power."

After referring to previous attempts to get this railway connection, he says:—"Our Co. proposes giving a service every hour each way to all the towns, cities and villages on these lines at one-third the present cost, bringing a population of over 60,000 within as

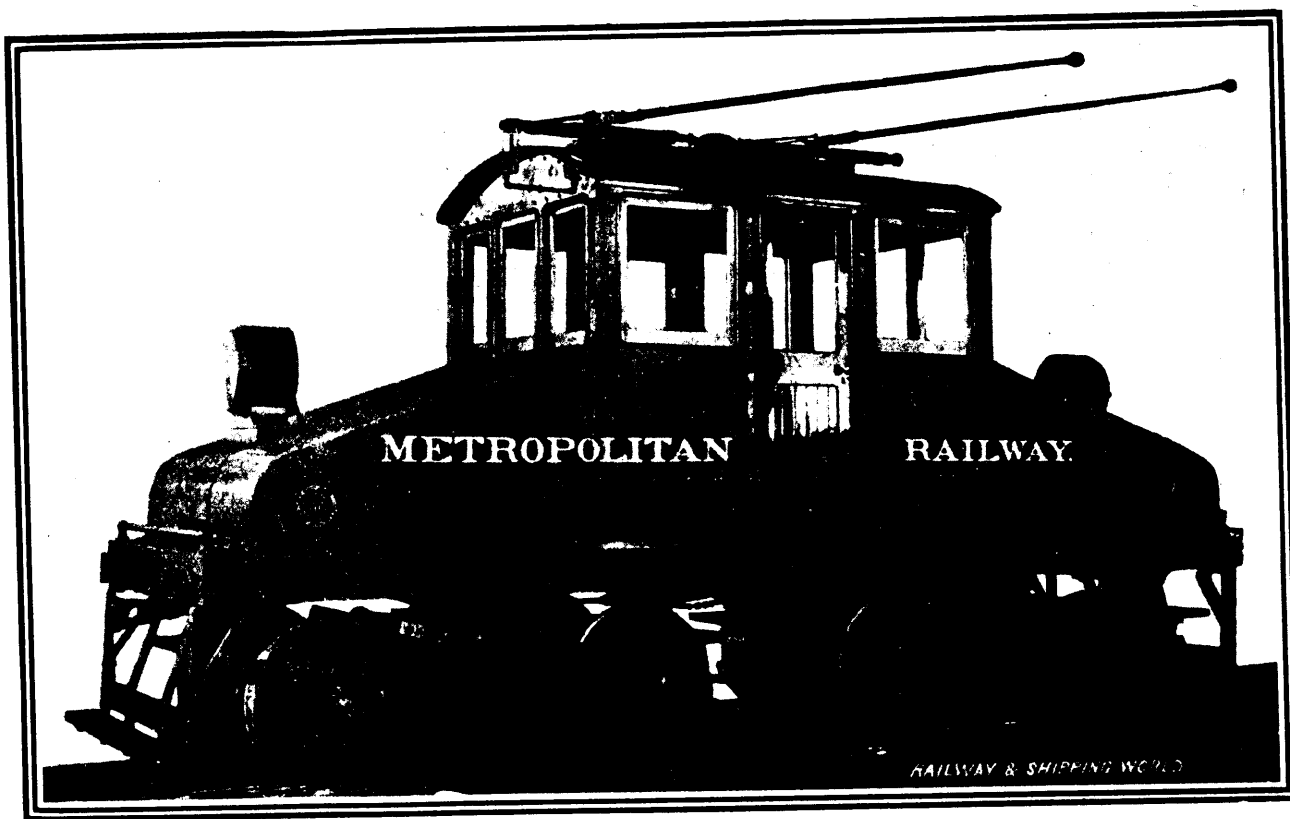
ed for through Dundurn Park, & it has been suggested to widen York St. so as to permit of two tracks being laid on it. It is not expected the matter will be settled until the new City Council gets to work. (Nov., pg. 336.)

Hamilton, Grimsby & Beamsville Electric Ry.—The finances of this Co. are said to be in such excellent shape that the directors propose to distribute a large block of stock among the shareholders, if the latter so agree at the annual meeting to be held in Jan. The authorized capital of the Co. is \$200,000, but, so far, only \$112,000 has been issued. The proposition is to distribute \$38,000 of stock pro rata among the present holders.

The London St. Ry. employees' strike has died of old age. By way of letting themselves down easily, the committee say, "they desire the public to use their own judgment as to riding in the cars during the winter months, assured that hundreds will not ride at all un-

made to the Ontario Legislature for an act enabling the M.R. Co., to run its cars over the tracks of the Toronto Ry. Co. for the purpose of conveying passengers & other traffic to the Union Station, the water front, the city markets & the post office, & such other points in the City, & upon such terms as to traffic arrangements & the making of any necessary changes in the tracks of the Toronto Ry. Co. as may be necessary to accommodate the traffic of the M.R. Co., & as may be agreed upon between the companies, or, in case the companies differ, as may be determined by the Lieutenant-Governor-in-Council.

The illustration on this page shows an electric locomotive recently built for the Co. by the Baldwin Locomotive Works. The general dimensions are:—gauge, 4' 8½"; motors, 4 no. 38b., voltage 500; full load speed, 10 m.p.h.; drawbar pull, running 7,000 lbs., starting 11,000 lbs.; diameter of drivers, 33 ins., wheel base 6' truck, 18' total; journals, 4¼"x8"; width, 7' 8"; length, 21' 6"; height,



ELECTRIC LOCOMOTIVE FOR METROPOLITAN RAILWAY.

short a ride in point of time from Hamilton as Burlington, Dundas or Grimsby are at present. The population of the entire district served by the three roads running out of Hamilton now is less than 10,000, & even at that they are more used for bringing people out of Hamilton than into it. The reverse would be the case with the new roads where almost the entire business would be the bringing of buyers to Hamilton, & the shipment of their purchases out of it. When we ask a reasonably straight right of way from James & Vine streets out of the western part of the city, without turning any corners, we do not consider we are asking anything to which we are not entitled. The cost of the roads outlined will be over \$1,800,000, & the revenue on such expenditure doubtful. Hamilton will be a very great gainer commercially, & unless it can see the way clear to meeting the wishes of the Co. in some way, the project, I regret to say, must be abandoned."

The Hamilton City Engineer strongly opposes granting the Co. the right of way ask-

til a fair settlement is effected, & that hundreds more will only ride when necessity compels them." Next!

Vice-President Smallman distributed \$500 among the employes at Christmas. Those who were in the Co.'s service at the time of the strike & remained loyal were given \$10 each, the others getting \$5 or \$2.50.

Metropolitan Electric Ry.—The motion sought by the Attorney-General of Ontario to secure an injunction to restrain the junction of the C.P.R. & Metropolitan tracks at North Toronto came up in the High Court, Dec. 21. The injunction is asked for on the ground that its completion would make Yonge st., a public highway, a part of the general system of the C.P.R. Counsel for the M.E.R. Co. objected to the hearing proceeding & asked for an enlargement. He had not read the papers filed. He intimated that the action was instigated by the Toronto Ry. Co. Counsel for the Attorney-General denied that the latter corporation had anything to do with the action.

Notice is given that application will be

11' 9"; weight, 54,700 lbs. This is the 2nd electric locomotive in use on the line, & it is said to be capable of drawing a 30 ton car up a grade of 9 in 100.

The M.R. Co. is said to have decided on further extensions northward from Newmarket, for which contracts are likely to be let soon.

The system of electrical distribution adopted by the M.R. Co. represents a new practice in the operation of street railways in Canada. This road is, we believe, the first in this country to employ both direct & alternating currents for the propulsion of cars, but the system will undoubtedly gradually grow in favor in connection with the operation of long distance lines. It has only recently come into use in the United States, the Chicago & Milwaukee Electric Ry. being one of the first to be so operated. This road is divided into sections, each section, except the one contiguous to the power house, being operated from a sub-station containing an equipment of transformers & rotary converters. This is

the method adopted by the M. R. Co., but a further step in advance has been taken, inasmuch as both direct & alternating current is generated by the same machine. The direct current passes direct from the generator to the line, & is employed to operate that portion of the road adjacent to the power-house. The alternating current, generated at low pressure, is stepped-up by means of transformers to a high voltage & transmitted to a sub-station 16 miles distant, where it passes through transformers & converters & goes to the line at low pressure direct current for operating that portion of the road remote from the power-house. It is admitted that this system of electrical generation & distribution has many advantages, as, for instance, making at once available direct current for use in the 3-wire system without passing through auxiliary machines. The alternating current, however, in order to be suitable for service at a distance, must be raised in pressure by means of transformers. This system is, therefore, open to the objection—perhaps over-balanced by its advantages—that it necessitates an expensive station equipment because of the rotary converters & transformers required for changing the pressure & kind of current. There is reason to expect that this object will eventually be overcome in some way, probably by the introduction of machines capable of generating both direct & alternating current at the desired pressure, or, in other words, by high voltage alternating & low voltage direct current generators. This would obviate the necessity for auxiliary apparatus in the generating station. The certainty of the rapid extension of inter-urban electric railways in this country makes of paramount importance the question of the most practicable & economical system of operation.—Canadian Electrical News.

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LOUIS DRAGO, Can. Passr. Agent, TORONTO, ONT. **H. PARRY,** Genl. Agent, BUFFALO, N. Y.

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 THOS. C. IRVING,
 Gen. Mgr. Western Canada, TORONTO, ONT.

RIVER ST. CLAIR RAILWAY BRIDGE AND TUNNEL COMPANY.

NOTICE is hereby given that application will be made to the Parliament of Canada, at its next session, for an Act to extend the time limited for the commencement and completion of the undertaking of the River St. Clair Railway Bridge and Tunnel Company, to add new provisional directors in place of those deceased, and to authorize the said Company to construct, maintain, work and manage a railway bridge across the River St. Clair, as may be found most suitable for railway purposes, from some point in the Township of Moore, in the County of Lambton, towards the City of St. Clair, in the State of Michigan.

KINGSMILL, SAUNDERS & TORRANCE,
 Solicitors for the Applicants.
 Dated at Toronto, this 19th day of December, 1899.

CANADA SOUTHERN BRIDGE COMPANY.

NOTICE is hereby given that application will be made to the Parliament of Canada, at its next session, for an Act to extend the time limited for the completion of the undertaking of the Canada Southern Bridge Company, and to authorize the said Company to construct, maintain, work and manage a railway bridge across the Detroit River for railway purposes from some point at or near the town of Amherstburg, in the County of Essex, towards the island of Grosse Isle, in the State of Michigan, in the United States of America.

KINGSMILL, SAUNDERS & TORRANCE,
 Solicitors for the Applicants.
 Dated at Toronto, this 19th day of December, 1899.

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Niagara Falls Park & River Ry.—Notice is given that application will be made to the Dominion Parliament for an act to enable the Buffalo Ry. Co. or other company to be named in the act, to acquire & undertake the franchise, assets & business of the N. F. P. & R. Ry. Co., the Clifton Suspension Bridge Co., the Queenston Heights Suspension Bridge Co., & the Queenston Heights Bridge Co., & of such other companies of a similar kind as may agree thereto.

The Niagara, St. Catharines & Toronto Ry. has placed an order for its entire motor equipment, consisting of six 4 motor & four 2 motor equipment.

Ottawa Electric Ry.—The first car was run on the extension to Britannia Dec. 18, when the track was completed to within about a mile of Britannia. It is expected to complete the extension early in Jan. The Co. has ordered 4 open cars for this line. These will be 50 ft. long, with an aisle down the centre & 14 benches an either side of the aisle. The Co. has purchased 12 acres of land at Britannia for park purposes. (Nov., '99, pg. 337.)

Port Arthur-Fort William Electric Ry.—At a recent joint meeting of the Town Council & Board of Trade of Port Arthur, the Mayor stated that Mackenzie, Mann & Co. would be willing to purchase the electric lighting & street railway, now operated by the town, but the proposition did not appear to meet with approval.

Port Stanley Electric St. Ry.—President Caughell has notified the Elgin County Council that this Co. has been incorporated & intends to operate an electric railway along the London & Port Stanley gravel road, beginning at Port Stanley & extending northward to the boundaries of Westminster township. The Co. is making arrangement with the lessees of the London & Port Stanley gravel road for the construction & operation of its railway along that road through the county of Elgin. (Nov., '99, pg. 337.)

Toronto Railway.—A dividend of 1% for the quarter ended Dec. 31, 1899, has been declared.

The gross earnings are:

	1899.	1898.	Increase.	Decrease.
Jan. ..	\$95,590.12	\$86,502.36	\$9,187.76	.....
Feb. ..	91,860.30	82,402.19	9,458.11	.....
Mar. ..	103,234.88	92,318.42	10,916.46	.....
April ..	95,212.37	86,898.83	8,313.54	.....
May ..	104,806.62	92,670.35	12,136.27	.....
June ..	109,063.18	94,119.32	14,943.86	.....
July ..	116,844.94	104,302.92	12,542.02	.....
Aug. ..	123,282.70	110,300.54	12,982.16	.....
Sept. ..	137,021.10	138,021.74	.....	\$400.64
Oct. ..	111,465.37	99,650.16	11,815.21	.....
Nov. ..	102,502.78	99,734.91	2,767.87	.....
Dec. ..	119,363.08	108,719.86	10,643.22	.....
	\$1,310,027.44	\$1,195,647.60	\$115,686.86	\$400.64
Increase, Jan. 1 to Dec. 30,			\$115,285.94.	

The annual meeting will be held Jan. 17. The coroner's jury on the death of Mrs. J. E. Rogers, who was killed by a sleigh in which she was riding being run into by a Church st. car last month, said in the verdict: "We find that the fender in use was not the best available; that the speed of the car was so great as to be inconsistent with safety to life, & we find the responsibility for these conditions rests with the general board of management of the Toronto Ry. Co. We find that the motorman did his duty, but there was the contributory negligence on the part of the driver of the sleigh." As a result the Crown Attorney has instituted proceedings for manslaughter against the City Engineer, on the ground that he failed to regulate the speed of cars on Church st., also against J. Gunn, Superintendent of the T.R. Co. & against the motorman & driver of the sleigh.

Toronto Suburban St. Railway.—A special general meeting will be held in Toronto Jan. 24, to sanction amendments to the by-laws & for the election of directors.

Notice is given that an application will be made to the Ontario Legislature for an Act to

change the name of the Co., & to enable it to amalgamate with or enter into traffic or other agreements with other companies having powers to operate steam or electric railways. To enable the Co. to expropriate lands necessary for right of way or other purposes of the railway. For power to acquire the assets & franchises, & to operate the railway of any company owning or operating electric railways in Ontario. To legalize agreements between the Co. & the municipal corporations of York township, Western Toronto Junction, & other municipalities.

A writ has been issued by J. Broom against the T. S. St. Ry., the Toronto Ry. Co., & the corporation of Toronto Junction, to prevent the Toronto Ry. Co. taking over a portion of the tracks of the T. S. St. Ry. for the purpose of running cars into the town.

Electric Lines in Western Canada.

British Columbia Electric Ry.—The directors have declared an interim dividend at the rate of 4% per annum for the 6 months to Sep. 30, 1899, on the ordinary shares.

A contract has been awarded for the erection of terminal buildings in New Westminster for \$7,445.

The management has under consideration the further improvement of the Victoria-Esquimalt line by the placing on it of large cars such as are used between Vancouver & New Westminster. The bridges will have to be strengthened before the change can be made, & it is proposed that the expenses be divided between the Co. & the city of Victoria.

Dawson, Yukon.—A Vancouver despatch says Dawson is to have an electric railway. A line is being built through the town which will cross the Klondike River & connect Dawson City & Klondike City. If Parliamentary sanction is obtained it is proposed to extend this line up the Klondike River to the mouth of Bonanza Creek, & thence to the forks of Bonanza & Eldorado.

Nelson, B.C., Electric Tramway.—The first cars were run on this Co.'s line on Dec. 21. (Nov., '99, pg. 339.)

Winnipeg Electric Street Ry.—Roadmaster Wallace, of the Toronto Ry. Co., has been in Winnipeg looking into the system of operating, & as a result it is said to be proposed to make some important changes so as to distribute the cars over a wider district & avoid bunching.

Niagara Gorge Ry.—It is said three steel bridges are to be built on this line, one being to replace a wooden trestle near Lewiston, N. Y.

The Sao Paulo Ry., Light & Power Co., Ltd., incorporated under the Ontario Companies Act., has had its name changed to the Sao Paulo Tramway, Light & Power Co., Ltd.

London, Eng., Electric Railway.—A London cable says that the English metropolis has decided to adopt the underground electric street car system, such as is now in use in Washington, Boston & New York, & will use American-built and American-equipped vehicles. The County Council has taken steps to appropriate about \$15,000,000 to install the system.

Demerara Electric Co.—A Georgetown, Demerara, cablegram of Dec. 25 says:—"The application of the Demerara Electric Co. for license to construct & operate electric tramways & lighting plants in this city has been granted on terms satisfactory to the Co. The capital stock of the Co. is \$850,000. The directors are Sir Wm. Van Horne, Senator Drummond, A. Kingan, J. Hutchison, W. B. Chipman, Montreal, & Senator McKeen & B. F. Pearson, Halifax." Fourteen miles of track are to be laid, & it is expected to have the whole line in operation this year.

Havana Electric Railways.—A New York despatch of Dec. 21 says:—"All the street railway interests in the city of Havana were consolidated to-day at a meeting in the office of the Havana Electric Ry. Co. in this city, thus ending a contest begun more than a year ago. In Dec., 1898, the International Bank of Paris, Hanson Bros., of Montreal, & Col. G. B. M. Harvey & F. S. Pearson, of New York, known as the Harvey syndicate, acquired all of the existing railway properties. There was in existence at the time one other concession known as the Torre Pla concession, covering about 12 miles of streets, the title of which was claimed by the American Indies Co., comprising those of the Ryan, P. A. B. Widener, R. A. C. Smith, Sir Wm. Van Horne, W. Mackenzie & others. The Harvey syndicate also claimed to own the true title to this concession. Litigation was begun by the two parties, & has been continued through the year without promise of adjustment for some time to come. In view of this state of affairs, Col. Harvey, on behalf of his Co., began negotiations to bring about a settlement, which was finally effected by complete consolidation to-day. Under the terms of the arrangement the Havana Electric Ry. Co. acquires all the rights & shares of stock of the Havana Traction Co., to which the American Indies Co.'s claims had been assigned, & the Havana Traction Co. becomes part of the Havana Electric Ry. Co. The electric company reimburses the owners of the traction company for their expenditures, & turns over to them a certain proportion of interest in the united company. Work was begun by the electric company several months ago, & it is now expected that a complete system of electric traction will be in operation by June 1 next."

General Telegraph Matters.

There is a talk of an extension of the Dominion Government telegraph line from Cheticamp to Meat Cove, Cape Breton.

The C.P.R. Co.'s Telegraph has opened offices at Elora, Fergus, Hillsburg, Erin, Alton, Cheltenham, Inglewood, Cataract, & Belwood, Ont.

From London, Eng., to Vancouver, 6,000 miles, a cable message costs 1s. 6d. a word, but from London to Bombay, 6,390 miles, the charge is 4s. a word.

The Commercial Cable Co.'s capital is to be increased \$5,000,000, of which \$3,500,000 will be issued to the present shareholders at par, in the proportion of 1 new share for every 3 old shares.

Complaints come from Nicola, B.C., as to delay in starting the operation of the Dominion Government telegraph line between there & Kamloops. It is said the delay is partly owing to a movement to have it operated as a telephone line instead.

A petition is being circulated asking the Dominion Government to increase the telegraphic facilities & trails on the West Coast of Vancouver Island, the object being to provide for ready communication in cases of shipwreck & other emergencies.

Efforts are being made to stir up the Board of Control of the Pacific cable to take some decisive measures. Now that the Board has been appointed, the course is clear for the preparation of specifications & the calling of tenders to ascertain the cost. No survey is necessary, this work having been effectively done by H.M.S. Egeria.

Reference was made in our last issue, pg. 376, to the agitation in Prince Edward Island in regard to the Anglo-American Telegraph Co.'s service. There are, of course, two sides to the question. The A.A.T. Co. does not charge 50c for a message to Nova Scotia, New Brunswick, Quebec & Ontario, but col-

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Initiation fee (minimum).....	\$1 00
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Registration fee.....	1 00
Medical Examination fee.....	1 50
Total minimum cost.....	\$4 50

(For more than \$1,000 Mort. Benefit.)

Cost to take \$2,000 Mort. Benefit..	\$6 00
" " \$3,000 " " "	7 00
" " \$4,000 " " "	9 00
" " \$5,000 " " "	10 00
Sick benefits, when required, cost extra.	

Benefits given by the I.O.F.

- 1.—Social and Fraternal Privileges of the Court Room.
- 2.—Free Medical Attendance by Court Physician where not dispensed with by Court by-law; also trained nurses in certain cases.
- 3.—A Sick Benefit of \$3 to \$5 per week, subject to provisions of the Constitution and Laws of the Order; optional, and when taken cost's extra.
- 4.—A Total and Permanent Disability Benefit of one-half of face value of policy, with exemption from further payment of premiums or Court Dues.
- 5.—An Old Age Benefit consisting of exemption from payment of premiums and Court dues after age 70.
- 6.—An Old Age Disability Benefit of one-tenth of face value of policy payable yearly for ten years, on being declared totally and permanently disabled by infirmities of age after the seventieth birthday.
- 7.—An Old Age Pension payable during disability, which may be taken as a substitute for the Old Age Disability Benefit.
- 8.—A Burial benefit of \$100 at death of a Pensioner.
- 9.—A Funeral Benefit of \$50 at death of a member enrolled in Sick and Funeral Benefit Department.
- 10.—The Mortuary Benefit of \$500, \$1,000, \$2,000, \$3,000 \$4,000 or \$5,000.

The Members, the Benefits, and Their Assurance

At 31st December Each Year.

Year.	Total Membership.	Benefits Paid.	Total Surplus.	Surplus per Capita.	Death Rate per 1,000.
1881	1,019	\$ 1,300 00	\$ 4,568 55	\$ 4 48	4.50
1882	1,134	12,038 86	2,907 93	2 61	11.00
1883	2,210	9,493 68	10,837 65	4 91	4.73
1884	2,538	13,914 31	23,031 85	9 01	4.23
1885	3,642	26,576 99	29,802 42	8 18	7.76
1886	5,804	28,499 82	53,981 28	9 30	4.85
1887	7,811	59,014 67	81,384 41	10 44	5.78
1888	11,800	89,018 16	117,821 96	9 98	6.43
1889	17,349	116,787 82	188,130 36	10 84	5.85
1890	21,604	181,846 79	283,907 20	11 54	5.18
1891	32,303	261,436 21	408,798 20	12 65	6.40
1892	43,024	344,748 82	580,597 85	13 49	6.25
1893	54,484	392,185 93	858,837 89	15 76	5.47
1894	70,055	511,162 30	1,187,25 11	16 94	5.47
1895	86,521	685,000 18	1,500,733 46	18 03	5.67
1896	102,838	820,941 91	2,015,484 38	19 60	5.50
1897	124,685	992,225 60	2,558,892 78	20 52	5.56
1898	144,000	1,176,125 14	3,186,370 36	22 12	5.67

For Further Information Respecting this Great Fraternal Benefit Society, Apply to

Oronhyatekha, M.D., S.C.R., Toronto, Ont.

James Marshall, 24 Charing Cross, London, Eng.

John A. McGillivray, Q.C., S.S., Toronto, Ont.

A. E. Stevenson, 6436 Kimbark Ave., Chicago, Ill.

Or Any Officer or Member of the Order.

lects that amount, having to pay the W. U. or G. N. W., as the case may be, 25c for carrying the message to its destination, the A. A. charging 25c for transmission over its land lines & cable. Maintaining an expensive plant, including 13 miles of 15 ton cable, for a farming community of 90,000, less than one good sized city, who, as a rule, do not telegraph, is not a highly remunerative investment.

The rapid telegraph apparatus of Pollak & Virag, of which accounts have recently appeared in European papers, have been tested in the U. S. Messrs. Pollak & Virag came to America apparently under arrangements with Chicago & other newspapers. On the wires of the W. U. Telegraph Co. between Chicago & Milwaukee, & also between Chicago & Buffalo, messages were sent at the rate of 122,000 words an hour, & in one of the tests the rate is said to have been 155,000 words an hour. This is a higher speed than had been reported in the tests between Buda-Pesth & Berlin. The apparatus is to be tried between New York & Chicago. The sending apparatus used in these tests appears to be similar in principle to that of other "rapid" methods; perforations, in the proper combinations, are made in strips of paper, & these strips are made to actuate the sending apparatus by being rapidly run through a pair of wheels. The receiving apparatus, which is as sensitive as a telephone, moves a mirror, after the manner of the receiving apparatus used on ocean cables, & the ray of light is thrown on a sensitized screen, so that the signals are photographed. Subsequently, the photographic message is written out, as is done with chemical telegraphs.—Railroad Gazette.

Western Union Telegraph Co.

The Co. has this year reconstructed its lines of poles between Guysboro & Canso, N. S., between Amherst, N. S., & Painsec, N. B., & between New Glasgow & Antigonish, N. S., in all about 100 miles of heavy cedar poles.

W. E. Earl has been appointed Manager of the W. U. Cable Co. at North Sydney, N. S., succeeding the late W. F. Snyder. Few people, outside of those directly interested, are aware of the volume of business that passes through the North Sydney cable office. The average number of messages is over 8,000 per day, & as high as 11,000 has been reached. Over 50 persons are employed in this office, which is one of the most important in the control of the W. U. Mr. Earl entered the telegraphic service as messenger, at St. John's, Newfoundland, 40 years ago. In 1875 he went to North Sydney, & was made assistant manager. In addition to the quadruplex & duplex circuits already in use, there have been introduced lately into the North Sydney station, two Muirhead automatic recorders, working at a speed of 40 to 50 words a minute over the cables. The Wheatstone automatic duplex is also being prepared between North Sydney & New York over the land lines, & it is expected that 100 words a minute will be achieved.

A number of improvements have recently been made in the office at St. John, N. B. The old gravity battery cells, about 2,000 in number, have been taken out & replaced by two storage battery circuits of 325 cells each, which will be charged from the electric railway power house, & are so arranged that while one set is working the wires the other will be charging. The office has been completely re-wired with the best insulated wire. The 40 lines are taken into the building from the pole in a heavy cable, & are led into modern lightning arresters. The cables have been conveniently arranged according to the latest & most approved system, by which messages are repeated without taking an operator from his work. A new switch board for the storage

battery system has been put up & is equipped with anperer meters, volt meters, automatic circuit breakers, fuse locks, switches, reostats & resisting plant. The instruments have been replaced with modern ones, & other changes made, all calculated to facilitate the business of the office.

On Nov. 25, the interesting experiment of running the W. U. office in Buffalo, N. Y., one of the largest repeating stations in the world, by Niagara Falls power was tried, & it proved an entire success. It is not purposed to run the office & feed the wires which radiate north, south, east & west with the electricity from Niagara Falls, but the W. U. management has put itself in a position to avail itself of the Falls current in case the local supply should for any reason give out. "The Co. has felt for some time," said Electrician A. C. Terry, "that it ought to have some reserve power. So we made arrangements with the General Electric Co. to run into the office 2 wires furnishing a total voltage of 110. Our plant is run by motor dynamos which are supplied with a current from the 3 large generators in the basement of Ellicott Square. Of course it would never answer for a telegraph office like the W. U. establishment in Buffalo to stop operations. If business were suspended for a single hour you know what that would mean. So arrangements were made with the General Electric Co. to run 2 wires underground from Main St. to the basement of Ellicott Square, & thence through 2 large feeders to the motor generators on the 10th floor of Ellicott Square. There we have arranged a switch by means of which the current in the generators can be changed from the Ellicott Square supply to the Niagara Falls supply in an instant."

General Telephone Matters.

The farmers of Grantham township, Ont., have established a local telephone system.

It is proposed to incorporate a company to build a telephone line from Danford to Kazabazua Station, Que.

A local telephone service has been installed between the various offices of the Northern Pacific Ry. in Winnipeg.

J. H. Goabout has been registered as the proprietor of the Megantic Telephone Co. at Ste. Julie de Somerset, Que.

The American Bell Telephone Co. has declared its regular quarterly dividend of 3%, with an extra dividend of 1½%, payable Jan. 15.

The directors of the American Bell Telephone Co. have decided to turn over the Co.'s assets to the American Telephone & Telegraph Co.

The directors of the New Brunswick Telephone Co. have decided to construct a long distance line between Fredericton & Chatham, to be commenced early next spring.

It is said that the cable to be laid by the B. C. Telephones, Ltd., to connect Victoria & Vancouver, will be 26 miles long, & will be equal to the longest submarine telephone cable in the world, which crosses the English Channel between England & France.

The Dominion Government has established telephone communication between Partridge Island & the mainland at St. John, N. B. The connection includes a cable of 3,000 ft. from the battery at Negrotown Point to the western wharf at the island, with a pole line to Fort Dufferin.

The British Columbia Telephones, Ltd., controls the following subsidiary companies: The New Westminster & Burrard Inlet Telephone Co., Ltd.; the Victoria & Esquimalt Telephone Co., Ltd.; the Vernon & Nelson Telephone Co., Ltd.; the Kootenay Lake Telephone Co., Ltd.; the Nanaimo Tele-

phone Co., Ltd.; & the Canada Western Telephone Co., Ltd.

The Pennfield & St. George Telephone Co., which was only incorporated last Oct., has already constructed lines connecting St. George with Black's Harbor, Pennfield, & Pennfield Centre, N. B. It has been decided to build the line to Pennfield station at once, & the extension of the line to Lepreaux & Bay Bay in the spring is said to have been practically decided upon. There is a talk of extending to St. Stephen, & ultimately to St. John.

The Canadian Telephone Co., which operates near the southern boundary of Quebec, adjoining Maine, was started by people at Sawyerville, St. Malo, Paquetteville & Hereford. The Co. has a capital of \$10,000. The 3rd annual report, issued May 31, 1899, stated that the Co. then had 12 switchboards, 329 subscribers, 371 miles of wire, & 230 miles of poles, with an estimated value of \$16,894.64, & with liabilities of about \$6,000. The Co. has a five years' contract with the People's Co., of Sherbrooke City & vicinity, which gives subscribers of the Canadian Co. the use of the People's Co.'s connection on payment of a small toll, which varies from 10c. for the nearest Canadian Co.'s centrals, to 25c. to Megantic, which is about 75 miles from Sherbrooke. Subscribers to the Canadian Co. pay \$10 a year rent for an instrument with a large free territory. For instance, Bishop's Crossing subscribers get Scottstown, Bury, Cookshire, Sawyerville, East Angus, Marbleton, & Weedon free, but have to pay a small toll to the other centrals.

The Bell Telephone Company.

President Sise issued a circular to stockholders Dec. 5, stating that "at a meeting of directors held to-day, acting upon the power conferred upon them at the annual meeting, Feb. 25, 1892, it was decided to increase the capital of the Co. from \$3,960,000 to \$4,950,000. Each stockholder of record Dec. 7, 1899, is entitled to take, at par, shares of the new stock in the proportion of 1 share for every 4 shares now held. Subscriptions will only be accepted for full shares. Holdings that are not multiples of 4 shares can be adjusted by the purchase or sale of rights, but the Co. will neither buy, sell nor adjust rights. The right to subscribe will expire at 1 p. m. Jan. 20, 1900. All stock not taken by subscriptions then on file at the Sec.-Treas.'s office will be disposed of as the directors shall determine. Stockholders who take new stock must file their subscriptions, & subscribers under purchased rights must file the assignment under which such rights are acquired, with their subscriptions, at the Sec.-Treas.'s office, before 1 p. m. on Jan. 20, 1900. Sellers of rights will not subscribe therefor. Payment at the rate of \$100 for each share must be made at the office of the Co., as follows:—50% Feb. 1, 1900, & the balance in instalments of 25% each at such times as the directors may determine, but not less than 30 days notice will be given of each instalment. No interest will be allowed on payments in advance. Receipts for the amounts paid, bearing interest at the current rate of dividend, will be issued in exchange for each payment, & stock certificates will be issued at the date of the final payment."

The Co.'s new directory for Western Ontario shows a marked increase in the use of the telephone. In Stratford there are over 230 instruments, while London's subscribers number nearly 1,400. There are 221 in Woodstock, 224 in Galt, 282 in Guelph, & 359 in Brantford.

The town of Westmount, a suburb of Montreal, has given the Co. an exclusive right to erect telephone poles with a limitation of taxation of 5 years. The rate to subscribers for instruments will be \$30 a year.

The exchange at Midland, Ont., is being improved; a switch board is being installed capable of handling 50 more subscribers than the present one.

An office has been opened at North Augusta, Ont., & one will shortly be opened at Algonquin, Ont.

The Co.'s new metallic line between Ottawa & Brockville, Ont., has been completed.

The Co. is installing a new & modern type of switch board at Ottawa.

Among the Express Companies.

The Dominion Ex. Co. has opened offices at Windsor Jct., N.S., & Swan River, Man.

The Great Northern Ex. Co. has opened an office in Victoria, B.C., with W. Sloan as Agent.

The Western Ex. Co. has extended its service over the Duluth, South Shore & Atlantic's new line to Bay Mills, Mich.

The Western Ex. Co. has opened offices at Bruce's Crossing, Mich.; Newton, Mich.; & Wyndmere, N.D. The office at Mackinac Island, Mich., has been closed.

At the annual meeting of the Dominion Ex. Co., in Montreal, Dec. 21, the vacancy on the directorate, caused by the death of Sir Geo. Kirkpatrick, was filled by the election of General Manager Stout. The officers are now as follows:—President, Jno. Cassils; Vice-President & General Manager, W. S. Stout; other directors, T. G. Shaughnessy, R. B. Angus, T. Tait; Sec.-Treas., H. E. Suckling.

For the handling of mails & the carriage of express matter to Dawson & intermediate

Yukon points during the winter season of 1899-1900, the Canadian Development Co. has established a winter route, with 20 provisioned station houses. The transport service will be carried on by a staff including 4 divisional superintendents, 18 couriers, & 36 post keepers & cooks. Accommodations for travellers will be provided at every station house. By the opening of a trail made by the Dominion Government & the Co., the route between Bennett, B.C., & Dawson has been shortened over 120 miles, the distance by the Co.'s winter route being 443 miles. The express rates for B.C. & Puget Sound ports to Dawson & intermediate Yukon points below Tagish are \$3 a lb. (minimum charge), & to Tagish Post & Atlin City \$2 a lb. (minimum). Single packages not to exceed 50 lbs. in weight & 3 x 2 ft. in size.

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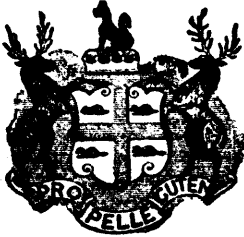
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Accident Insurance Travelers' Insurance Co. Montreal.	Gas & Gasoline Engines The Fairbanks Co. Montreal. Northey Manufacturing Co. Toronto.	Shafting Rice Lewis & Son. Toronto.
Aerated Waters E. L. Drewry. Winnipeg.	Gates Page Wire Fence Co. Walkerville, Ont.	Shipbuilders' Supplies Rice Lewis & Son. Toronto.
Air Brakes & Fittings Westinghouse Mfg. Co. Hamilton, Ont.	General Supplies The Hudson's Bay Company.	Ship Carpenters' Tools Rice Lewis & Son. Toronto.
Ales E. L. Drewry. Winnipeg.	Grain Elevators John S. Metcalfe & Co. Chicago, Ill.	Ships Polson Iron Works. Toronto.
Anchors Rice Lewis & Son. Toronto.	Groceries The Hudson's Bay Company.	Shovels The Fairbanks Co. Montreal. The Hudson's Bay Company. Rice Lewis & Son. Toronto.
Axles James Hutton & Co. Montreal. Rhodes, Curry & Co. Amherst, N.S.	Half Tones Acton Burrows Co. Toronto.	Signal House Numbers Acton Burrows Co. Toronto.
Babbit Rice Lewis & Son. Toronto.	Hand & Push Cars F. E. Came. Montreal. The Fairbanks Co. Montreal.	Signals Noah L. Piper & Sons. Toronto.
Badges John Martin, Sons & Co. Montreal.	Hardware Rice Lewis & Son. Toronto. The Hudson's Bay Company.	Signs Acton Burrows Co. Toronto.
Beams Rice Lewis & Son. Toronto.	Headlights Noah L. Piper & Sons. Toronto.	Snow Ploughs Rhodes, Curry & Co. Amherst, N.S.
Bells Rice Lewis & Son. Toronto.	Hose Rice Lewis & Son. Toronto.	Speed Indicators Rice Lewis & Son. Toronto.
Belting Rice Lewis & Son. Toronto.	Illustrations Acton Burrows Co. Toronto.	Spikes Rice Lewis & Son. Toronto.
Blankets & Bedding The Hudson's Bay Company.	Iron Rice Lewis & Son. Toronto.	Station Name Signs Acton Burrows Co. Toronto.
Block & Tackle Rice Lewis & Son. Toronto.	Iron Signs Acton Burrows Co. Toronto.	Steamboats Polson Iron Works. Toronto.
Bolt Fittings & Hardware Rice Lewis & Son. Toronto.	Japans McCaskill, Dougall & Co. Montreal.	Steamboat Signs Acton Burrows Co. Toronto.
Boiler Covering Mica Boiler Covering Co. Toronto.	Lager Beer, &c. E. L. Drewry. Winnipeg.	Steam Whistles Rice Lewis & Son. Toronto.
Boilers Polson Iron Works. Toronto.	Lamps Rice Lewis & Son. Toronto. Noah L. Piper & Sons. Toronto. The Hudson's Bay Company.	Steel W. G. Blyth. Toronto. James Hutton & Co. Montreal. Rice Lewis & Son. Toronto.
Boiler Tubes Rice Lewis & Son. Toronto.	Lanterns Rice Lewis & Son. Toronto.	Steel Castings F. E. Came. Montreal.
Bolts Rice Lewis & Son. Toronto.	Launches Polson Iron Works. Toronto.	Switch Targets Acton Burrows Co. Toronto.
Brake Shoes F. E. Came. Montreal.	Life Insurance Independent Order of Foresters. Toronto. Travelers' Insurance Co. Montreal.	Switches F. E. Came. Montreal.
Bridge Numbers Acton Burrows Co. Toronto.	Linoleum and Floor Coverings The Hudson's Bay Company.	Telegraph Office Signs Acton Burrows Co. Toronto.
Buckets Rice Lewis & Son. Toronto.	Locomotives Richmond Locomotive & Machine Works. Richmond, Va.	Telegraph Spoons Rice Lewis & Son. Toronto.
Bunting Rice Lewis & Son. Toronto. The Hudson's Bay Company.	Lubricators Rice Lewis & Son. Toronto.	Telephone Office Signs Acton Burrows Co. Toronto.
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Cars Rhodes, Curry & Co. Amherst, N.S.	Milepost Numbers Acton Burrows Co. Toronto.	Tobacco and Cigars The Hudson's Bay Company.
Car Wheels Rhodes, Curry & Co. Amherst, N.S.	Mohair The Hudson's Bay Company.	Toilet Paper The Hudson's Bay Company.
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Foghorns Rice Lewis & Son. Toronto.	Seals The Fairbanks Co. Montreal.	Yachts Polson Iron Works. Toronto.
	Semaphore Arms Acton Burrows Co. Toronto.	

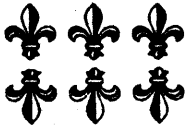
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