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With which is incorporated *The Western World*. Established 1890.

Devoted to Steam & Electric Railway, Shipping, Express, Telegraph & Telephone Interests.

Old Series, No. 106.  
New Series, No. 24.

TORONTO, CANADA, FEBRUARY, 1900.

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\$1 A Year.

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OLD SERIES, NO. 106.  
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TORONTO, CANADA, FEBRUARY, 1900.

10 CENTS A COPY.  
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## Railroads & Other Things.

At the last meeting of the Canadian Ticket Agents' Association, at Winnipeg, the Second Vice-President, M. McNamara, G.T.R. ticket agent at Walkerton, Ont., read a paper under this title, from which the following extracts are taken:—

It is the railroad especially that has suddenly placed Manitoba & the Northwest in the front ranks of the world's progress. The early settlers in other parts of Canada had to spend their lives in hewing out a home from the forest. But here the magician's wand struck the earth, and suddenly a completely organized community appeared upon the scene. It was the railway that did it. Twenty years ago there was not a mile of railway west of the Red River. And to-day there are within the Province of Manitoba alone nearly 2,000 miles of road, with nearly 300 more under contract for construction. The Territories west of us are developing with equal rapidity, & from the progress being made it is not improbable that some of those now present at this meeting may live to see the day when a serious agitation will arise for moving the capital of this Dominion from Ottawa to Winnipeg. "Westward the march of empire wends its way." The world moves to the west, & Canada is following the natural law of progress. Already it is proposed to make Port Arthur the head of ocean navigation, & I do not doubt that in due time it will become so. Every argument that supports Montreal as the head of ocean navigation at present, applies equally well to Port Arthur, & when the people west of Port Arthur become numerous enough to out-vote those east of Montreal, the canals will be enlarged so as to give the great ocean ships a free course from Liverpool to the head of Lake Superior.

This is a growing time. Everything shows the expansive force of hope & development. Our commerce is booming, & passenger traffic is increasing. Old-fashioned roads that have hitherto taken life easy, are now hustling for business & paying dividends, whilst a man could have nothing better in his pocket than a roll of stock certificates in some of the new ones. They are better than Klondike gold mines, & much easier to work. Our railways have become models of comfort, speed & luxury, whilst the managers are blossoming out into millionaires, & stockholders feel as if they owned the earth. But I regret having occasion to say, that during my connection with the service, I have not noticed any expansion in the commission of ticket agents. Indeed, they have rather shown a tendency towards contraction. I don't know if all the members of the Association have noticed this tendency, but I have been told by some of the older agents that it

is quite perceptible. In other respects the managers treat us handsomely, &, indeed, in all respects they treat us like gentlemen. I know that all present take pleasure in acknowledging their courtesy, but on the authority of an eminent statesman now holding a high position in the public service of this country, I have to say that "business is business," & that on a business basis the ticket agents would like to feel that this is a growing time. We don't want to stand still whilst everything else is growing around us. We want to have a patriotic share in the prosperity of our country, & for this reason,



W. S. STOUT,

Vice-President and General Manager, Dominion Express Company.

Mr. President, I hope you will call the attention of the general passenger agents to this particular phase of the growing time, for otherwise they may think that we are neglecting the interests of the railway companies in this important particular.

What our newspaper friends are in the habit of calling the railway problem, may, I think, properly receive some attention at a railway ticket agents' meeting, for, although it does not specially affect our interests just yet, it is evident that the exigencies of political agitation will ultimately force an issue or some sort on the attention of this country.

The problem is already acute in the United States, & is on the march toward Canada. If the Government of Canada does not in time assume entire ownership of the railways, an effort at least will be made to have their traffic regulated by a Government commission. The experience of the Intercolonial is not an encouraging illustration of Government ownership, & there does not appear to be any burning desire in the public mind of Canada, at present, to duplicate the experiment. But the idea exists & is growing. It would increase the patronage of politicians, & many honest men really think it would add to the prosperity of the country.

The passenger traffic more immediately affects our interests, & in this respect it is instructive to observe the results of experience in dealing with the theories of reformers. The recent rate war between our two great companies is a striking object lesson in this respect. It is a favorite theory with many members of the press, that if passenger rates were lowered, travel would increase in a degree that would more than make up the difference in receipts. I must admit that I held this view myself. But I hold it no longer. There was at first an increase in travel, but when the novelty wore off, people travelled only when circumstances required, & soon settled down to normal conditions. Comparing the whole period of the cut rates with a similar period since, I find in my own business that whilst the receipts of the latter period were not only larger in amount, the number of passengers was actually greater. This does not take into account temporary boom points, or excursions, but only what may be considered ordinary business. In respect to excursions, that to the Toronto Exhibition each year furnishes the best basis of comparison, and to this we sold fully as many tickets this year as last, though the rates averaged 40% over the cut period. There was more travel from short distances to Toronto & other central points during the rate war, & to these points the railway companies carried a considerably increased number of passengers. But they did not carry enough to make up the difference in receipts, whilst their running expenses were largely increased. From this experience, I arrived at the conclusion that people don't travel for fun, or from any ardent affection for the railway companies, but only when it suits their own requirements, & covers their own interests. I have lost confidence in cheap rates as a basis for steady business, & feel satisfied that the railway companies are conducting the passenger traffic of the country at as low a rate as would leave any margin for profit. They are not altogether philanthropists, but are certainly giving the public good service at reasonable figures.

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Toronto.

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

### Canadian Ticket Agents' Association.

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VICE-PRESIDENT, W. Jackson, Clinton, Ont.; 2nd VICE-  
PRESIDENT, M. McNamara, Walkerton, Ont.; 3rd  
VICE-PRESIDENT, W. H. C. McKay, St. John, N.B.;  
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Hope, Ont.; J. W. Tierney, Arnprior, Ont.; C. C.  
Young, London, Ont.

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. Wood-  
ward, Toronto; and VICE-PRES., D. F. Campbell, To-  
ronto.

COUNCIL, T. W. Good, W. Harwood, R. Binch, To-  
ronto; P. J. Carr, Port Dalhousie; J. E. Kane, King-  
ston.

TREASURER, H. Brownlee, Toronto; SECRETARY, S.  
A. Mills, Toronto; GUARD, H. Bowler, Toronto; AUDI-  
TORS, D. L. Foley, Toronto; E. J. O'Dell, Owen Sound.

### Track Supply Association.

PRESIDENT.—F. E. Came, Montreal.  
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N.Y.

SECOND VICE-PRESIDENT.—W. H. Frisby, Three Riv-  
ers, Mich.

HON. SECRETARY-TREASURER.—Acton Burrows, 33  
Melinda Street, Toronto.

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

Another matter that does not appear to be  
sufficiently dwelt upon in connection with  
railways, is the almost absolute safety of rail-  
way travel under present conditions. The  
old stage coaches of England killed 1 in 1,000  
of their passengers. The railway companies  
of Canada kill only 1 in 1,000,000. This is  
nearly as safe as the position of United States  
generals in the Philippine war. But we kill  
a great many walking on the track. Ninety  
people lost their lives this way in Canada last  
year, & 40 more were killed in jumping or  
falling off the train whilst in motion. The  
railway companies can hardly be blamed for  
killing people of this description. If they  
have not sense enough to get off the track  
when the whistle blows, or to remain in their  
seats till the train stops, they are evidently  
out of place in this world of sin & misery, &  
may possibly be happier somewhere else.

We often hear a good deal about the excel-  
lencies of our Ontario system of education, &  
due credit is given to the memory of Dr. Ryer-  
son & other distinguished gentlemen concern-  
ed in its development. But no credit is ever  
given to the railway companies for the rev-  
olution they have effected in the science of ge-  
ography. In the old maps it was a laborious  
process to trace the way from one point to an-  
other. The surveyors seemed to have no  
idea of order or system, but put the towns  
& villages promiscuously all over the map  
in a most disorderly & irregular man-  
ner. But all this has been changed by  
the railway companies, & now we have  
the towns & cities in a straight line direct  
from every man's doorstep to wherever he may  
want to go. The value of this improvement  
can scarcely be over-estimated, & I think it is  
but fitting that at a meeting like this steps  
should be taken to have the services of our  
railway geographers properly recognized by  
the Minister of Education.

### Railway Cattle Guards in Ontario.

At the instigation of the municipal council  
of North Dumfries, the various township coun-  
cils in Ontario were invited to send delegates  
to a meeting which was held in Galt recently,  
the object as stated in the notice being "to  
consider the best means of forcing the railway  
companies to construct more effective cattle  
guards than the new kind recently devised  
and now being substituted for the old on  
nearly all the lines of railway." Twenty-four  
delegates were present. In the discussion  
nearly all the speakers condemned the cattle  
guards now in use, but did not suggest any-  
thing better, though some of them expressed  
a preference for the old pit guards. The  
most practical remarks were made by J. D.  
Moore, M.L.A., who said that before going  
before the Railway Committee of the Privy  
Council he advised that the deputation should  
acquaint themselves with all the facts, for the  
committee would be sure to be confronted  
with such questions as—in what particular  
are the present cattle guards ineffective? If  
they are ineffective, why did the railway com-  
panies, which usually move forward in im-  
provements, change from the old style? Rail-  
way companies are generally careful about  
such matters, as one accident might cost them  
more than the cost of all their cattle guards.  
It was resolved, "that as it is clearly  
manifest from the expressed views of the  
delegates that the cattle guards now being

constructed by the railway companies are  
grossly inefficient & totally unfit for the pur-  
pose for which they are designed, freely  
admitting cattle to the railway tracks as well  
as constituting a grave source of danger to  
the travelling public, that a committee be  
appointed to convey the sentiments of the  
meeting to the Railway Committee of the  
Privy Council & urge the necessity for  
compelling the railway companies to ob-  
serve the Railway Act by building guards  
that will effectively safeguard the interests of  
the farmers & the travelling public."

The Railway Act 1888, sec. 194, &c., pro-  
vides that when a municipal corporation for a  
township has been organized, & the whole or  
any portion of the township has been survey-  
ed & divided into lots for settlement, fences  
shall be erected & maintained on each side of  
the railway with gates, &c., & cattle guards  
shall be provided at all railway crossings, suit-  
able & sufficient to prevent cattle & other ani-  
mals from getting on the railway. In New  
Brunswick, Nova Scotia, & P. E. Island, wher-  
ever a county municipality has not been sub-  
divided into local municipalities, each improved  
or occupied lot of land is to be protected by  
fences & cattle guards, &c. After such fences,  
gates & guards have been provided, & while  
they are duly maintained, no liability shall ac-  
cure for any damages, unless the same are  
caused wilfully or negligently by the company  
or its employes.

Section 271 of the same act provides that  
no horses, sheep, swine or other cattle shall  
be permitted to be at large upon any highway  
within  $\frac{1}{2}$  a mile of its intersection by any rail-  
way at rail level, unless such cattle are in  
charge of some person to prevent their loiter-  
ing or stopping on the highway at the inter-  
section. If cattle at large contrary to the  
provisions of this section are killed or injured  
by any train at a crossing the owner shall not  
have any right of action against any com-  
pany in respect of the cattle being killed or  
injured.

The pit cattle guards which were formerly  
almost entirely in use were a menace to the  
safety of every train, as in case of a wheel  
getting off the track & running into the pit  
a wreck would inevitably result. They are  
also objectionable from a sanitary standpoint,  
especially in and near towns & villages, ow-  
ing to their holding stagnant water, dead  
animals, etc., etc.

The surface cattle guard now used by the  
G.T.R. is made of  $1\frac{1}{4}$  inch dressed oak, 8 ft.  
long, set on edge & kept in position by  $3\frac{1}{2} \times 3\frac{1}{2}$   
ins. oak blocks. We are informed that it is  
of a pattern that has been generally adopted  
by the trunk lines in the U.S., after inspec-  
tion & approval by various state boards of  
railway commissioners & that it is considered  
just as effective for turning cattle as the old pit  
guards, without the consequent danger to  
trains.

The standard cattle guard now in use on  
the C.P.R. lines east of Fort William is made  
of wooden slats, cut in triangular shape, from  
6x6 inch timber, the slats being laid on their  
sides, paral-  
lled with the rails, and spiked to  
the ties about 2 ins. apart. The management  
is considering the use of a more effective  
wooden surface cattle guard, or the adoption  
of some metallic cattle guard.

The surface cattle guards now in use by the  
G.T.R., the C.P.R. & other lines in Ontario  
are undoubtedly quite sufficient to stop cattle  
etc., which may be driven over the crossings.  
Probably no guard is sufficient to prevent  
stray animals determined to walk the track  
from getting there. But these animals should  
not be at large & before asking the railways  
to provide more efficient guards the municipal  
councils should enforce the statutory law pro-  
hibiting animals from straying on the high-  
ways. Going to the Railway Committee of the  
Privy Council at this stage is starting at the  
wrong end.

### Commercial Travellers' Baggage.

"A Commercial Traveller's" letter published on pg. 1 of our last issue has attracted considerable attention, but we do not think the suggestions it contained are likely to commend themselves to the railway managements. These suggestions were ostensibly made for the benefit of the railways, but the officials of those companies are hardly likely to credit commercial travellers with a desire to benefit the railways without securing a substantial benefit in return. It is probable that from 10 to 25% of the commercial travellers, varying with the associations to which they belong, are what may be called heavy baggage men & carry over 300 lbs. of baggage each. A reduction in the rate per 100 lbs. would benefit them, but charging for every pound of baggage carried by the remaining 75 to 90% of the travellers would certainly not satisfy that large percentage, hence the suggestion is naturally made to reduce the present passenger rate to commercial travellers on eastern lines from 2½ to 2c. per mile, which would apply to all commercial travellers irrespective of the amount of baggage carried, & this combined with the reduction in the cost for 100 lbs. of the excess baggage would be a far heavier reduction than the railway companies would be likely to make up by charging for the baggage & by saving the cost of excess tickets & prepaid certificates. As far as we can ascertain the feeling of the railway managements on this subject it appears to be that the ideas promulgated in "A Commercial Traveller's" letter are not simply to trade even, but to receive considerable to boot.

### Mica Boiler Covering.

The Mica Boiler Covering Co. reports having received news from the British Admiralty that the 10,000 sq. ft. of covering which the Co. supplied for use on Her Majesty's new yacht has given great satisfaction in every way. Of course this is very gratifying to the Co., as the Admiralty officials have been most particular as to the quality of the materials used in the construction and equipment of this splendid vessel. Nothing but the finest in every particular has been used on her, & she is supposed to be the most magnificent piece of ship building that the Admiralty has ever turned out. It says volumes for the mica boiler covering that it was chosen by the Admiralty for use on this yacht, after keen competition from every other known first-class covering.

The Co.'s trade with the English railways is rapidly increasing. It has recently shipped from Montreal a number of laggings for the Great Eastern Ry. of England, one of which is to be used on the locomotive to be shown by that Co. at the Paris Exposition. This order was received from the G.E. Ry. Co. by cable.

The M.B.C. Co.'s business has increased so rapidly that it found its Toronto factory totally inadequate to supply the demand, & it has opened a large factory on Ann St., Montreal, but even with the additional facilities, the Co. is kept busy filling orders.

**Canadian Ticket Agents' Association.**—President Churchill has issued the following circular to members: During our sojourn in the Prairie City in Oct. last, one of the daily papers, in writing of the visit of our Association, made the statement that our objects were purely of a social nature. I think it is undesirable that such an impression should obtain currency, & I take it that our Association was not originally formed with any such intention. As you have done me the honor of electing me your President for this year, I venture to ask your views as to the best method of popularizing the educational or

beneficial purpose. My personal view is that there should be at least two short papers read & discussed annually, such papers to be of an educational or helpful nature. I would also suggest the advisability, in the interest of new & inexperienced men, of a question drawer; all questions to be in the hands of the Secretary at least a week before the annual meeting. Our Association numbers amongst its members many old, tried & experienced agents, & possibly to them such papers & hints would be merely the hauling of coals to Newcastle, but to the large number of men of limited experience occupying small offices, a free discussion of matters connected with the successful conduct of a ticket office would prove of great value. I am satisfied that some such programme as that outlined would tend to the mutual advantage of ourselves & the great corporations we represent; & would serve to whet the appetites of all for the social side of our programme, & that we should appreciate even more fully than heretofore the boundless courtesies which have always characterized our annual gatherings.

### RAILWAY FINANCE, MEETINGS, &c.

**Algoma Commercial Co.**—F. H., B. J. & E. V. Clergue & H. C. Hamilton, of Sault Ste. Marie, Ont., E. V. & W. P. Douglas & F. S. Lewis, of Philadelphia, Pa., have been incorporated under the Ontario Companies Act as the Algoma Commercial Co., with a capital of \$10,000,000, the objects of the Co. being as a contractor, to construct railways & public & private works of all kinds & to equip the same, & to operate any of the works constructed by the Co. except railways; to acquire mines & mining lands, timber & timber lands & other lands & to lease, sell or otherwise dispose of the same, & to manufacture & sell the products of raw materials.

**Baltimore Coal Mining & Railway Co.**—A meeting was held at Moncton, N.B., Jan. 10, to increase the capital stock of the Co. from \$300,000 to \$1,000,000.

**Calgary & Edmonton.**—Earnings Dec. 1899, \$18,599.21, against \$13,345.40 in Dec. 1898.

**Carrillon & Grenville Ry.**—At the annual meeting in Montreal, Jan. 9, the following were elected:—President, S. W. Simpson; Vice-President, H. W. Shepherd; other directors, R. Bolton, J. J. Gibb, R. W. Shepherd & H. Walters. It is said that negotiations are on for the sale of the line to the Great Northern Ry. of Canada. The C. & G. Ry. runs from Carrillon to Grenville, 13 miles, & has a gauge of 5½ ft. It is operated in connection with the Ottawa River Navigation Co.'s steamers.

**Cumberland Ry. & Coal Co.**—At the annual meeting in Montreal Feb. 14, the following were elected:—President, R. Cowans; Vice-President, Hon. G. A. Drummond; General Manager, J. R. Cowans; Directors, D. Morrice, E. S. Clouston, W. J. Crossen, E. McDougall, W. J. Morrice; Secretary, H. R. Drummond.

**Dominion Atlantic.**—Net earnings for 1899, \$772,246, against \$644,733 in 1898.

**East Richelieu Valley.**—It is said negotiations have been completed for the transfer of this line to the G.T.R. The road, which was built in 1898, runs from Iberville to Noyan Jct., Que., 23 miles, & is being worked by the United Counties Ry. It runs through a good district & about 100 car loads of hay per week are being shipped on it. It connects with the Canada Atlantic and the Rutland railways at Noyan, and with the new Rutland extension, which will be completed by June, its acquisition will shorten the G.T. connections with Boston and New York, making it the shortest route to Boston by 26 miles, and the shortest to New York by 16. It will also, it

is claimed, give the G.T. the most complete connection between the Richelieu Valley & Montreal.

The above was current as a rumour in Montreal early in Feb. On Feb. 19 we were informed that in the absence from Montreal of General Manager Hays, who had gone south for a brief rest, nothing was known at the G.T.R. general offices in regard to any such acquisition as above mentioned.

**Great Northern (U.S.A.)**—The Co. will issue 90,000 shares of preferred stock for the purpose of acquiring 35,000 shares of stock of the Eastern Ry. of Minnesota and 55,000 shares of the Willmar & the Sioux Falls Ry., including Sioux City & Northern & the Sioux City & Western railways. The opportunity is offered to stockholders of record Jan. 29 to subscribe at par for the new stock to be issued at the rate of 1 share for each 10 shares of present holdings. According to impressions current among those acquainted with the G. N.'s policy, it is likely that a further stock increase of \$1,000,000, bringing the total capitalization up to \$100,000,000, will be authorized within the near future. This addition, however, will not, in the light of present probabilities, be offered to stockholders, but rather to employees of the system. The details of the plan are believed to have been worked out, but have not yet been adopted by the directors. Wall Street information has it that the stock will be offered to employees earning \$3,000 or less a year, presumably at par.

The Co. has declared its usual quarterly dividend of 1¾% on its preferred stock.

**Great Northwest Central.**—At a special meeting of the shareholders at the Union Station, Toronto, President J. W. Leonard, General Superintendent of the Ontario & Quebec Division of the C.P.R., presiding, it was decided to lease the G.N.W.C. to the C.P.R. Co. in perpetuity, & to issue bonds on the Co.'s property which will be mortgaged to the trustees to secure the payment of the bonds. The Co. will make application to the Dominion Minister of Railways and Canals in Ottawa on Mar. 3, for the sanctioning of the lease. (Nov. '99, pg. 321.)

**Guelph Junction.**—At the annual meeting, Feb. 8, the statement showed that \$7,724.24 had been received from the C.P.R. for the earnings of the line for 15 months to Dec. 31, 1899. The following were elected:—President, W. Bell; Vice-President, Mayor Nelson; other Directors, J. M. Bond, F. Gowdy, Lt.-Col. McCrae, Major Davidson, Aldermen Kennedy & Hamilton. A committee was appointed to act in connection with any municipal committees appointed in connection with the proposed extension of the line to Goderich.

**Halifax & Yarmouth.**—Notice is given that the Lieutenant-Governor of Nova Scotia in Council has issued a proclamation bringing into effect an act passed at the 1899 session of the Legislature to amend & consolidate the various acts relating to the Coast Ry. Co. of N.S., & to change its name to the Halifax & Yarmouth Ry. Co., Ltd.

**Hamilton & Barton Incline Ry.**—At the annual meeting, Jan. 16, a dividend of 3½% was declared. The officers for the current year are—President, G. E. Tuckett; Vice-President, J. Dickenson; Sec.-Treas., L. Bauer.

**London & Port Stanley.**—At the annual meeting at London, Jan. 16, the report showed that the lessee of the road, the Lake Erie & Detroit River Ry., had paid rental according to agreement. The receipts were, balance from 1898, \$205.79, rental, \$12,596.60, which was paid over to the interest account of the city of London. Mayor Rumball, of London, is President for this year, & Ald. Douglass, Vice-President.

**Manitoba & Northwestern.**—Notice was recently given of a meeting of the 1st mortgage

bondholders, to be held Feb. 15, for the purpose of accepting the resignation of the present trustees, & removing the necessity of any further notice than has been received by the Co.

**New York Central Purchases.**—President S. R. Callaway has made the following statement:—"The directors considered carefully the possibility of the control of the Lake Erie & Western & Cleveland, Cincinnati, Chicago & St. Louis roads passing into adverse hands. The business interchanged between these two companies & the Vanderbilt system amounts to from \$6,000,000 to \$8,000,000 a year, & the loss of it would therefore be serious. It was concluded that the safest plan would be to buy a majority of the stock of each road, so that the interest would not be very heavy, even if the roads were not able to pay dividends on their own securities. The control of both roads was secured at such price that undoubtedly they will pay at least the interest on the investment, in addition to being profitable feeders to the Vanderbilt system & interchanging business, which, it is hoped, will grow very largely."

**Northern Pacific.**—President Mellen recently said:—"Including the money from land transactions already completed or pending, the N.P. will have about \$20,000,000 available for acquisitions & improvements. The Weyerhaeuser deal included only timber lands in Washington west of the Cascade Mountains, & brought in about \$6,000,000. We received between \$5,000,000 & \$6,000,000 from lands east of the Missouri river. Then there are \$3,500,000 of prior lien bonds which we did not sell. It has been provided also that the Co. may issue \$1,500,000 worth of bonds annually for improvement work. The N.P. today could add to its mileage nearly 2,000 miles without going outside its office for the money. The Weyerhaeuser purchase includes only our patented land, & by no means includes all of

our timber land. The N.P. has been adding to its mileage about 200 miles a year, & will probably continue to do so. It will certainly keep up its improvement work. No very important acquisitions, however, are in contemplation."

The earnings from July 1 to Dec. 31, 1899, were \$17,027,836, against \$15,440,508, for corresponding period of 1898.

**Port Arthur, Duluth & Western.**—Blake, Lash & Cassels, solicitors, Toronto, give notice that pursuant to the provisions of the Railway Act, the purchaser of this railway will apply to the Dominion Parliament for an act incorporating a company to acquire complete control and operate or dispose of the railway, & to acquire, build & operate, or dispose of terminals, elevators, wharves, &c., at Port Arthur.

**Qu'Appelle, Long Lake & Saskatchewan.**—Net earnings for Dec., 1899, \$2,222.08, against \$2,393.29 for Dec., 1898. The Dominion Government Subsidy for the 6 months ended Dec. 31, 1899, taking the net earnings of the Co. to Nov. 30, 1899, permit of a distribution of £1 1s. % in respect of the interest due Feb. 1 on the 1st mortgage sterling bonds, and payment of such interest will be made on and after that date on presentation of the coupons at the office of Chaplin, Milne, Grenfell & Co., London, Eng. The Co.'s certificate will be given for the unpaid balance of the coupon.

**Quebec & Lake St. John.**—Holders of the £780,000 five % 1st mortgage bonds are requested by the bondholders' committee to deposit them with the Railway Share Trust & Agency Co., London, Eng., which will give scrip certificates in exchange. Bonds will be received up to Feb. 22 on the present conditions; but after that date only on such terms as the committee may hereafter decide.

For Nov., 1899, the net earnings were \$5,622 more than in Nov., 1898.

**Quebec Central.**—Gross earnings for Dec. \$34,155.79, against \$30,638.14 in Dec. '98. Working expenses \$31,088.49, against \$25,931.18. Net earnings \$3,067.30, against \$4,706.96. Gross earnings, 12 mos. to Dec. 31, \$503,282.80, against \$450,249.69. Working expenses \$334,283.68, against \$303,908.00. Net earnings \$168,999.12, against \$146,341.69.

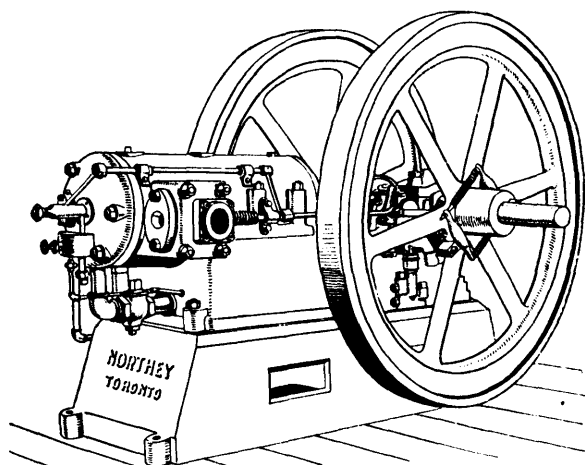
**Saskatchewan & Western.**—At the annual meeting at Winnipeg Feb. 1, the following directors were elected:—E. B. Osler, H. C. Hammond, A. M. Nanton, J. R. Waghorn, H. W. Nanton. No other business was transacted and the meeting adjourned until Mar. 15, when a proposed agreement between this Co. & the Manitoba & North-Western R. Co., altering the terms of the lease under which the M. & N. W. R. Co. of Canada is the lessee of the railway of this Co., will be submitted for approval.

**United Counties.**—Greenshields, Greenshields, Lafamme & Dixon, solicitors, Montreal, give notice of application to the Dominion Parliament for an act to incorporate the Quebec Southern Ry. Co. for the purpose of acquiring the United Counties Ry. and its charter, privileges and franchises; to authorize the Co. to build and operate a railway from the terminus of the U.C.R. at Iberville to Lacolle, Que.; to authorize the Co. to build and operate a railway from a point on the railway aforesaid to the St. Lawrence River, at or near Valleyfield, and to construct bridges and other works deemed necessary for the above mentioned purposes, and to build and operate any branch lines necessary for the working of the same. (Jan. pg. 3.)

**White Pass & Yukon.**—The earnings for the 3 weeks ended Dec. 21 were \$7,400, making from the opening of the line to Dec. 21, \$866,119. On Mar. 1 the general office will be removed from Seattle, Wash., to Skagway, Alaska.

# The Northey Gas or Gasoline Engine.

*In Connection with Pumping Machinery for Tank Duty.*



"BUILT FOR HARD WORK."

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.

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well as by the economical working of the road. In addition to the above figures, showing the advances, it may be stated that in 1896 the 4% guaranteed was quoted on the stock market at 40, and has advanced to 94½, while 1st preference has advanced from 30 in 1896, to 91¼ to-day, and 2nd from 20 to 63½."

The stock and share capital of the Co. is as follows:—

	£	s.	d.
4% guaranteed stock.....	5,219,793	14	4
1st preference stock.....	3,420,000		
and " ".....	2,530,000		
3rd " ".....	7,168,055	4	6
Total preference stocks.....	18,337,848	18	10
Ordinary stock.....	22,475,984	16	2
Total.....	40,813,833	15	

### Chicago & Grand Trunk Finances.

In our last issue we gave full particulars of the proceedings under which the affairs of this Co. had been placed in the hands of receivers. Sir C. Rivers Wilson, Lord Welby & J. Price, trustees of the reorganization scheme submitted by the Co., recently gave notice to the holders of 1st & 2nd mortgage bonds as follows:—

"Bonds in excess of a majority of each class have been deposited with Glyn, Mills, Currie & Co., in support of the scheme. Proceedings have been instituted in the United States Courts for the purpose of carrying the scheme into effect & receivers of the line have been appointed. It is important that bondholders who have not yet deposited should do so at once, as this action on their part will obviate unnecessary delay & expense in the U.S. proceedings. Instructions have accordingly been given to Glyn, Mills, Currie & Co. to receive, on behalf of the trustees, any further bonds which may be deposited. An application will be made at once to the Stock Exchange for a quotation of the Trustees' Certificates, which will carry interest at 4% as from Jan. 1. Bondholders are reminded that under the scheme they have to bear no part of the expenses incident to it, whereas by depositing their bonds with other persons they will, in any event, incur liabilities."

A. Keyser & Co., London, Eng., have given to the press the following letter received by them from S. Borg & Co., of New York, dated Jan. 22nd, & addressed to the holders of 1st mortgage 6% bonds: "Under the plan of reorganization published by the C. & G.T. R. Co. you have been asked to exchange your present first lien of \$6,000,000 on the en-

tire property of the Co. for an equal amount of new 4% bonds of an issue of \$15,000,000 (of which the 2nd mortgage bondholders are to be given 75% of their holdings), thus materially decreasing your security, to say nothing of the loss of 33⅓% in interest. Needless to say, this proposition is not acceptable to the 1st mortgage bondholders & is being vigorously opposed by them. It is evident, not only that the plan was gotten up in the interests of the 2nd mortgage bond & stock holders, but that there was some doubt on the part of the Co. of its ability to carry out the plan, for, prior to the maturity of the 1st mortgage bonds on Jan. 1 the trustees of the mortgage resigned, & a new one was appointed, who filed a bill on Jan. 2 for the foreclosure of the mortgage, alleging that the property was not worth the \$6,000,000 1st mortgage. In view of the amount of new bonds proposed to be issued under the plan, the allegation seems to be, to say the least, somewhat inconsistent. Upon this application two receivers were appointed, one of whom is the counsel & a director of the Co. & a former trustee under the 1st mortgage. The bondholders may be interested to know how the property is being managed. In 1898 the gross earnings of the C. & G.T. were \$10,726 per mile of road, while those of the G.T.R. of Canada were but \$5,700. Notwithstanding this large advantage in earning power in favor of the former, its operating expenses were 78.28%, while the G.T. of Canada operated its own road for 66.66%. This difference was accentuated during 1899, for during the 10 months ended Oct. 31, 1899, the G.T. of Canada was operated for 64½%, while the expenses of the C. & G.T. were actually 86%. Thus an increase of \$181,000 gross was turned into a decrease of \$284,000 in net earnings. Even with the heavy operating expenses referred to, however, the net earnings of the road in 1898 were \$780,847, or more than \$400,000 in excess of interest on the 1st mortgage bonds & rentals, so that the security of the 1st mortgage bonds is shown, even under adverse circumstances, to be beyond question. Had the road been operated at a fair ratio, say 70%, this surplus would have been in the neighborhood of \$700,000. We have been requested by our London friends to represent them in enforcing the rights of the 1st mortgage bondholders who have deposited with Martin's Bank, Ltd., of London, a large amount of the bonds under the agreement dated Dec. 21st, 1899. Holders of the bonds in the U.S. & Canada can deposit them with the Central Trust Co. of New York under a similar agree-

ment, copies of which can be obtained from the Trust Co. or at our office. Steps have been taken by our counsel to enforce the rights of bondholders, & the prompt deposit of the same will facilitate our doing so."

### Grand Trunk Betterments, Etc.

The Co. is said to have completed the purchase of a big block of property in the vicinity of Bonaventure station, Montreal, in order to secure better facilities for the handling of freight. One strip of property acquired runs along the line of the railway, & extends west from Mountain st. to Aqueduct st. The other property which has been taken in runs along the south side of Albert st. from Chabollez square west to Mountain. As soon as the buildings standing on these properties can be demolished the work of erecting the necessary buildings & track laying will be commenced. The acquisition of this property has been made necessary by the large amount of freight now handled at the Bonaventure yards.

It is rumored at Midland, Ont., that the Co. intends erecting large freight sheds there for the handling of package freight.

Surveys have been made for a cut-off line westward from Waterdown, Ont., to relieve traffic on the Y, but it is said nothing has yet been decided on in regard to construction.

The Hamilton City Council has decided to ask the Railway Committee of the Privy Council to compel the Co. to rebuild the bridge on the high level road over the G.T.R. main line, to build a bridge on Strachan st. & to remove its wires on Ferguson avenue.

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

**Eastern Division.**—About \$130,000 has already been appropriated to be expended on betterments, &c., this year. Nearly half of this sum will be used in replacing temporary bridges by permanent work, & about one-third of the total amount will be expended in ballasting & in general improvement to road bed, gradients & alignment. Considerable additions & extensions will be made to sidings, to accommodate increased traffic & longer trains; several stations & approaches thereto & the yards will be improved, & plants will be erected for the more economical handling of fuel for locomotives. The dock at Jack Fish, Ont., will be considerably improved. It is probable that additional appropriations for this division will be granted later on in the year.

# MICA BOILER AND PIPE COVERING.

Used after exhaustive competitive tests by the

**BRITISH ADMIRALTY on H. M. THE QUEEN'S YACHT.**

*The following Railways use it extensively:*

**C. P. Ry., M. C. Ry., L. E. and D. R. Ry., and C. O. Ry. in CANADA.  
G. E. Ry., G. C. Ry., S. E. Ry., and L. & Y. Ry., in ENGLAND.**

For full particulars, prices, etc., apply to the Company's Head Office in Canada.

**The Mica Boiler Covering Co., Limited, 86-92 Ann St., Montreal.**

Work has been commenced on the new bridge over the Rideau River below St. Patrick St., Ottawa.

**Ottawa Connecting Line.**—No decision has yet been arrived at as to the route which this line will take in crossing the city of Ottawa, so as to connect the C.P.R. Co.'s present union station near the Chaudiere Falls, with the central station near the canal basin & Russell House. The Co. recently acquired a right of way across the city about 100 yards south of the Canada Atlantic track, but this location has been objected to very strongly by the city authorities, on the ground that it would necessitate a second level crossing at Bank St., & the Co. is being urged to use the Isabella St. route, which would locate its tracks alongside the Canada Atlantic. Surveys of the latter route have been made, which show that it would cost much more than the route originally selected by the Co. (Dec., '99, pg. 348.)

**Montreal-Toronto Double Track.**—The second track has been completed between Montreal Jct. & St. Anne's, being laid with 100 lbs. rails. The old track between Dorval & Beaconsfield, & between St. Anne's & Vaudreuil, has been relaid with 100 lbs. rails, so that there is now a through track laid with 100 lbs. rails between Montreal Jct. & Vaudreuil. (Sep. '99, pg. 267.)

An interlocking switch, to be worked by leverage from St. Anne's station, has been put in a little west of the station.

**Toronto Terminals.**—As soon as the frost is out of the ground work will be started on a freight shed at Toronto, to be built south of the present freight shed & north of Lake St. The new building, which will be 600x38 ft., will be similar to the present one, & its erection will almost double the accommodation at this point. A freight office will be built at the end of the new shed, & the freight agent & his staff will remove there from the present shed as soon as the new building is completed. Some of the tracks will necessarily have to be changed & some new ones will be put in. A road-way will be built on the lake side of the new shed. Altogether these works will cost between \$20,000 & \$25,000. (Jan., pg. 6.)

Improved coal chutes are about to be built at Toronto Junction. The first pocket to be built will hold about 60 tons, & more will probably be built later on. The main feature will be that the coal will be weighed as it is delivered to the engines. (Jan., pg. 6.)

**Owen Sound Terminals.**—Work has commenced on the additions & improvements. Tracks will be run through no. 2 freight shed, another freight shed, which will be no. 4, is to be erected on the north side of the slip and will be 200 ft. long. The passenger dock will be re-constructed, reducing it to the level of the railway track. (Jan., pg. 6.)

**Western Lines.** Following up the policy adopted in previous years, a very large sum will be spent this year in further improving the lines west of Fort William, the appropriations aggregating about \$1,500,000. The filling in of wooden bridges wherever possible, & the substitution of masonry arches, masonry culverts, or iron pipes, will be continued, masonry piers and abutments and steel bridges being used for large openings. Most of this work will be west of Calgary, but some will be in southern Manitoba, where the bridge at Milford, over the Souris, will be partly filled this season, necessitating the using of some 50,000 yards of earth.

Between Calgary & Laggan about 10 miles of track will be laid with 80 lbs. steel, & some 50 miles or more of a similar weight will be laid on the main line on the Pacific division, replacing 60 lbs. rails. A large amount of work will be done between Winnipeg & the Pacific coast, ballasting, trimming slopes, & improving ditches. On the Wabigoon & Lethbridge sections the sags will be lifted.

At Ignace the yard will be increased by lengthening existing tracks and putting in additional ones. Additional sidings will be provided on the Brandon section. At Michel Creek, on the Crow's Nest branch, a lot of side tracks will be put in to accommodate the Crow's Nest Pass Coal Co.'s new mine. On the Mountain section of the Pacific division the length of 5 sidings will be considerably increased for crossings. On the Columbia & Kootenay branch, between Nelson & Robson, the improvement of the alignment will be continued, and about 36 trestles will be filled. About 50 miles of line will be fenced with wire, of which some will be near Dryden, Ont., & the balance mostly west of Winnipeg.

Large turn-tables will be provided at Medicine Hat, Rogers Pass, & Revelstoke, to accommodate the increased size of the locomotives. Coal pockets will be erected at Broadview. The improvements of Laggan yard, started last year, will be completed. At Rogers Pass there will be erected a station, a round house, coal tracks, storage tracks for snow ploughs, & a turn-table for locomotives working over the Selkirks. At Revelstoke & Field the engine stalls will be rendered fire proof.

On some of the prairie sections where, owing to the alkaline nature of the water, it has been necessary to run auxiliary water tanks on trains, a good water supply will be provided. Dams & tanks will be erected at Drinkwater on the Pasqua section, & at Seven Persons on the Lethbridge section. At a point 8 miles west of Gleichen on the main line, water will be brought to the track from the Bow River by a pipe 2 miles long.

The station at Carman, Man., will be moved to Elm Creek & another station will be built at Carman. Dwelling houses for men will be erected at Ignace, La Riviere, & Laggan. A station & freight shed will be built at Michel Creek, & a freight shed at Cowley, both on the Crow's Nest branch. A ticket & telegraph office will be built on the wharf at Kaslo. Terminal facilities will be provided at Rossland, by the construction of a freight house & team & storage tracks. An improved station will be built at Golden. A number of additional section houses will be erected at various points. At Glacier House the roads to the Glacier will be improved. From Field a road will be built to Emerald Lake, & at Lake Louise roads will be constructed to different points of interest. At Nelson permanent ways will be erected for the building of steamers. Some other works to be carried out on the Western lines this year are referred to under separate headings below.

**Fort William.**—Recognizing the vast shipping point that this will undoubtedly become, the management has decided, on a comprehensive plan, for a very large yard, which, of course, will not be carried into effect at once, but will be done from time to time as traffic requires. The work this year will consist mainly of the completion of what was started last year, including the 20 stall engine house, shops, coal pockets, & the laying of some additional tracks. (Jan., pg. 6.)

**Fort William to Winnipeg.**—It is not expected that any work will be done on the double tracking of this portion of the main line this year, further than the continuing of the work of putting in sidings of 4,000 ft., & lengthening the old ones to that distance, all of which will be so laid that they will ultimately form part of the second track. (Jan., pg. 6.)

**Rat Portage.**—The work started last year to increase the capacity of the yard, &c., will be completed, involving an expenditure of some \$40,000. (Jan., pg. 7.)

**The Bonnet Lake Branch,** from the main line at Molson, 45 miles east of Winnipeg, is to be completed as early as possible. It is expected that the first 10 miles will be completed early in May, & the whole branch,

some 22 or 23 miles, by the end of June or early in July. (Jan., pg. 7.)

**Winnipeg Terminals.**—The growing importance of Winnipeg & the great increase in its railway business renders it necessary to vastly improve the Co.'s accommodation for handling freight, & it is likely that in the near future a comprehensive scheme will be decided on by which the Winnipeg yards will be entirely remodelled & the location of the shops will be changed so as to make it possible to handle the business to the best possible advantage, & to provide scope for any future improvements which may become necessary from time to time.

There is no truth in the reports that the management has decided to change the location of the proposed station & hotel. They will be built partly on the site of the present station, on the east side of Main street, taking in from Point Douglas ave. to Higgins ave. The station will be large enough to accommodate any possible increase in business that is likely to occur in the next 10 or 12 years, & no doubt the necessities which may arise for enlargement will be provided for. The hotel will contain about 270 rooms. The ground plan for the station & hotel is about settled on, but the elevation is still being worked at. It is probable that red stone will be used, as it is considered it would look best & wear best. The stone from Verte Island, Lake Superior, is favorably spoken of. It is likely that tenders will be asked for at an early date for at least some portions of the work, & and it is possible that the building may be covered in this year. (Jan., pg. 7.)

The question of the crossing of Main street by the tracks is still in abeyance, pending negotiations with the City Council, & whether the crossing will be an over-head one or a subway has not been decided. (Dec., '99, pg. 349.)

**The West Selkirk Branch,** which runs from Winnipeg along the west bank of the Red River, from Winnipeg to West Selkirk, 22 miles, is likely to be extended northwesterly to the western shore of Lake Winnipeg, probably to some point in township 17, which would make a convenient summer resort for Winnipeggers. The survey has been started & it is quite likely that the extension will be built this year.

**Stonewall Branch.**—It is not probable that any extension will be made this year beyond Teulon, 39 miles from Winnipeg, to which point the line was extended in 1898. (June, '99, pg. 172.)

**The McGregor-Varcoe Branch,** (from McGregor, on the main line, 22 miles west of Portage la Prairie, to Varcoe, on the Great Northwest Central), was graded for 28 miles from McGregor last year, & track will be laid on this grade as soon as spring opens. No announcement has yet been made as to whether the grading is to be continued to Varcoe this year. (Dec., '99, pg. 349.)

**Pacific Division.**—Nearly \$500,000 were expended on improvements, &c., last year, very nearly half of which was devoted to renewing buildings & strengthening bridges. Among the other most important works were ballasting Cascade section, improving alignment of Columbia & Kootenay branch, ditching Mountain & Thompson sections, improving English Bay branch, establishing divisional yard at Field, building large dock at Kaslo, station at New Westminster, wharf & passenger platforms at Nelson & Robson, station & hotel at Sicamous, transfer barge for Kootenay Lake, building retaining wall, raising tracks at station, filling wharves, providing coaling facilities & extending wharves at Vancouver.

**Columbia & Western Ry.**—Track has been laid on the main line to the western terminus at Midway, & it is expected the operating department will take the line over early in March. The long tunnel through the

Bull Dog Mountain is nearly completed. The tunnel itself is 3,000 ft. long, the approaches at either end making it 3,700 ft. On Jan. 19 we were advised that work had been suspended on the spur lines, leaving about 5 miles of track to be laid on them in the spring. One of these, the Motherlode branch, starts from Greenwood. It is 5½ miles in length, & reaches the mining camp north of Greenwood. Another branch starts from Eholt, & is about 10 miles long. From this short branch there are 6 spur tracks, ranging from about half a mile to 3½ miles in length, & reaching various mines in the district about Phoenix. There is also a half mile spur to Greenwood smelter. In all, these branches & spurs aggregate over 26 miles.

No announcement has been made as to the intentions of the management in regard to extending the line beyond Midway to connect with the transcontinental line & no information is obtainable. Surveys have been made from Midway via Keremeos to near Princeton, down Quilchena Creek near Quilchena, westerly to Nicola Lake, skirting the left bank of the Nicola River to near the Twenty-Two Mile House, & then following the right bank to Spence's Bridge on the main line. President Shaughnessy, when addressing the Vancouver Board of Trade last autumn, was very guarded in his references to this extension, & stated that he was not prepared to say that there was any practical road between Vancouver and the Boundary Creek country. He admitted that a line could be built between Penticton & Midway, which would shorten the distance to some extent because it would substitute a railroad for a wagon road from the foot of Okanagon Lake, but he added that it would not be wise for the Co. to proceed with the line to Penticton, or any other point in that vicinity, without first knowing how to get along to territory further west. Our own opinion is that the line is not likely to be carried beyond Midway this year, & probably not for some time to come. Of course the people of Vancouver and other Pacific coast points are very anxious to have the extension built, so as to give them more direct communication with the Boundary Creek & West Kootenay districts, but that business would not be enough to justify the Co. in building the extension, & it is a question if the resources of the districts to be passed through, at least so far as at present known, would warrant the very heavy expenditure which would be necessary. (Dec., '99, pg. 350.)

**A Slooan Branch.**—The following, from the Nelson Miner, is unconfirmed:—"The plans & specifications of a branch line of the C.P.R. up Ten Mile Creek, through Camp Mansfield, down Kaslo Creek to Kaslo, have been forwarded to Montreal, & this line will certainly be built next summer. The new road will pass near all the properties in Camp Mansfield & within a mile & a half of the Molly Gibson, to which point an aerial tramway can easily be constructed." (Jan., pg. 9.)

**Vancouver Terminals.**—Work is being proceeded with rapidly on the extension of the wharves & the filling in of the space between them & the tracks, so as to give additional room for wharves, &c. Considerably over \$100,000 was spent on this work last year, & about a similar amount will be spent this year. (Dec., '99, pg. 351.)

A Vancouver despatch says T. Tompkins, contractor, has arrived there to commence work on additions to the Hotel Vancouver.

**New Westminster.**—The new station building has been completed. (Oct., '99, pg. 292.)

**New Westminster-Vancouver Loop Line.**—The right of way is being secured, but it is doubtful if construction will be commenced this year. (Dec., '99, pg. 351.)

**Vancouver & Lulu Island Ry.**—A subsidiary company, the Vancouver & Lulu Island Ry. Co., of which H. Abbott, formerly General Superintendent of the C.P.R. Co.'s Pacific division, is President, is about to build a line from Vancouver to the north arm of the Fraser River, a distance of about 12 miles, & it is expected to complete the work this year. This line will fill the place of the Vancouver-Steveston line which has been talked of for some time. Steveston is situated on the north bank of the south arm of the Fraser, & it is hardly likely that the line will be carried to that place, as it would necessitate expensive bridging. In Vancouver the branch is expected to run about parallel to Granville St. until it reaches Sixth avenue, thence west along Sixth avenue to Maple St.; about half way between that street & Arbutus it will turn directly south, crossing Seventh avenue, & thence to the city limits. (Sep., '99, pg. 267.)

**Duluth, South Shore & Atlantic.**—It is said this Co. will erect an improved passenger station at Sault Ste. Marie, Mich., this year, that a site in a very desirable position has been purchased at a cost of about \$40,000, that the grading and track-laying incidental thereto will cost \$10,000, & that the station building will represent

an expenditure of \$20,000, & the new freight station \$5,000, making altogether an outlay of \$75,000 in station improvements.

It is said that Balch & Peppard, of St. Paul, Minn., have a contract for building an extension of 30 miles from Lake Gogebic, Mich., to connect with the Mineral Range branch of this line at Mass City.

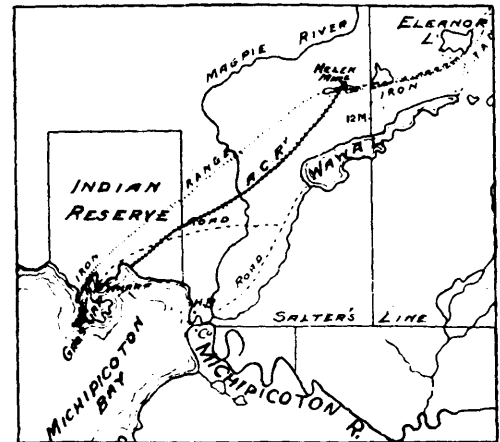
**Minneapolis, St. Paul & Sault Ste. Marie.**—An officer writes that there are no improvements as yet being made in North Minneapolis, Minn., but that the Co. has bought terminals there and will improve them in the spring. (Jan., pg. 7.)

The Business Men's Association of Grand Forks, Dakota, are negotiating to secure an extension of the M. St. P. & S. Ste. M. line to that town.

### Surveys, Construction, Betterment, &c.

**The Alberta Ry. & Coal Co.** is building a short branch at Lethbridge, extending northerly from the station and connecting with the branch running to no. 3 coal shaft.

**Algoma Central.**—The map given below shows the line which this Co. has built from Michipicoton Bay to the Helen mine. President Clergue states that by the time navigation opens the Co.'s ore dock at Michipicoton Harbor, the largest on Lake Superior, will be completed & that the Co. has already sold 500,000 tons of ore for shipment to various points in Ontario & the U.S., during this year. (Jan., pg. 7.)



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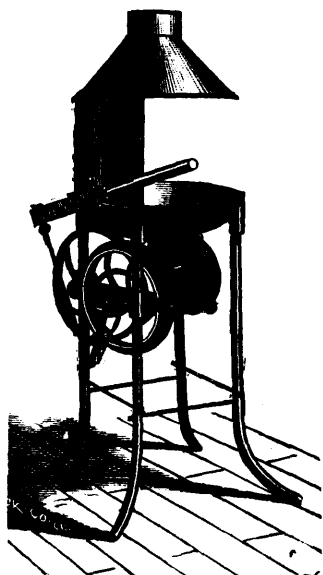
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In a recent interview Mr. Clergue gave this additional information. The Ontario & Lake Superior Co. has a capital of \$20,000,000 of which \$6,000,000 have been paid in. The capitalists composing the Co. belong to New York & Philadelphia. All the capital which is being invested is foreign money. It is wholly share capital, none of the money being raised by bonds or mortgages. We are building reduction & refining works at Sault Ste. Marie that will cost \$1,500,000, will give employment to 1,000 men & will have a capacity of 1,000 tons a day. The works are now under construction & will be ready for operation on June 1 next. We shall treat nickel, copper & other ores from all over Ontario. These works will give an added value to the mineral properties in this Province & will provide a market for mineral products. We shall draw ore from the district extending from Sault Ste. Marie to Sudbury. Anyone who has a carload of ore to sell can dispose of it to us and he will be in as good a position as the farmer when he goes to market with his grain. We are also erecting large chemical works in connection with the reduction works, for utilizing sulphur, & producing sulphurous anhydride for use in sulphide pulp mills. Alkali plants are also being built for the production of caustic acid & bleaching powder. The chemical works will cost \$500,000, while the alkali plants involve an outlay of \$1,500,000. A sulphide pulp mill costing \$250,000 is being erected in connection with our existing plant. I should not forget to mention that we are about to establish a steel rail mill that will cost about \$2,500,000. This will have a capacity of 100 tons of steel rails daily. (Nov. 99, pg. 325.)

Notice is given that application will be made to the Dominion Parliament this session to authorize a change in the location of the main line of this road so that it may run through Sault Ste. Marie to the Michipicoton River, thence northerly to the main line of the C.P.R., & southerly to Michipicoton Harbor. The act of incorporation of the company passed in 1899 provides that it may construct & operate a railway from Sault Ste. Marie to a point on the main line of the C.P.R. at or near Dalton station, & thence southerly to Michipicoton Harbor.

**Atlantic & Lake Superior.**—During last year this Co. built 4 miles of line, from West Paspebiac to end of wharf.

**Canada Atlantic.**—A recent press despatch from Ottawa stated that this Co. had decided to erect a second grain elevator at Depot Harbor, with a capacity of 1,500,000 bush. We are officially informed that the report was unauthorized & that the Co. does not contemplate any further expenditure at that point at present.

A good deal of work is being done filling trestles & improving yards at Depot Harbor, Hawkesbury, Rainy Lake & other points.

It is said work will not be started on the new Central station in Ottawa before next fall at the earliest, as the Government military stores which are located on the site will not be vacated before then.

**Canadian Northern.**—Track has been laid on the main line from Gladstone Jct. 220 miles, bringing the line within about 2 miles of Bell River, which runs from Porcupine Mountain, into Dawson Bay, Lake Winnipegosis. The present terminus is within about 20 miles of the northern boundary of Manitoba & about 125 miles from the Pas Mission and the great Saskatchewan River, at which point it is expected the line will cross on its way to Hudson's Bay. The Co. has also in operation a branch of 21 miles from Sifton Jct. to Winnipegosis, at the lower end of Lake Winnipegosis. It is expected that the main line will be extended this year to the great Saskatchewan. Last year's construction opened up a large lumber district,

containing high grade spruce, & the Co. carried about 3,000,000 of lumber during the year. Another important source of freight is the fishing industry on Lake Winnipegosis, the Co. having carried out 1,800,000 lbs., mostly whitefish, last year. (Jan., pg. 7.)

On the Gilbert Plains branch, which leaves the main line at Dauphin, 15 miles have been graded & 7 miles laid with steel. It is expected to complete the branch this year. Its western terminus will probably be at the base of the Riding Mountains, about 35 miles from Dauphin. (Jan., pg. 7.)

Preliminary surveys are being made for the proposed branch to Prince Albert, Sask.

In a recent interview in Montreal W. Mackenzie is reported to have said that Mackenzie, Mann & Co. having secured control of the Manitoba & South Eastern Ry., the Minnesota & Manitoba Ry., the Ontario & Rainy River Ry. & the Port Arthur, Duluth & Western Ry., will have welded this quartette by Sept., 1901, into a line of 432 miles in length, built in a first class manner & possessing as good grades eastward as any road in America. This will form a very important section of the new Canadian Northern Railway. To bring the wheat-fields of the West into communication with the great lakes was their object, & this would be done by the construction of a railway between 400 & 500 miles in length which would be completed by Aug. or Sept., 1901. It was, Mr. Mackenzie admitted, a little unfortunate that the promoters of this system should have to build through a foreign state, but this could not be avoided & 42 miles out of the total 432 would pass through Minnesota.

**Canso & Louisburg.**—Press reports have credited the Vanderbilt interests & also the C.P.R., as being behind this enterprise. In our last issue it was stated that we were informed that the Vanderbilt interests had nothing to do with the project. We have since been informed that the same is true as regards the C.P.R. The Canso & Louisburg Ry. Co. was incorporated by the Nova Scotia Legislature in 1896, & in 1898 the charter was extended for two years. Vice-President & General Manager Alton informs us that he has associated with him Boston & New York people with sufficient funds to build & equip the line from the Strait of Canso to Louisburg, with a branch into Arichat Isle Madam. On Jan. 19 he advised us as follows: "The soundings & borings at the River Inhabitants have been completed, & we find an excellent foundation for the piers of the bridge at that crossing. The bridge will be about 800 ft. long, with 2 centre spans of 200 ft. each, & approaches of about 200 feet each on either side. Chief Engineer J. S. Armstrong left yesterday to submit to the Provincial Government Engineer the plans, profiles & specifications for the first section. Up to the present we have been favored with fairly good weather." The Co. has called for tenders for construction, &c. (Jan., pg. 7.)

**Detroit River Bridge.**—It is said application has been made by the River St. Clair Ry. & Bridge Terminal Co., of St. Clair, Mich., for concessions toward building the bridge over the St. Clair river from Moore township, Lambton County, Ont.

**Esquimalt & Nanaimo.**—At Oyster Harbor, 59 miles north of Victoria, & 7 miles north of Chemainus Station, large coal bunkers have been completed for the shipment of the Wellington Extension & Alexandria coal. The bunkers are the largest on the Pacific Coast, with facilities for loading 1,000 tons of coal per hour. A car ferry has been established between Oyster Harbor & Vancouver with a capacity of 12 cars per trip. It connects with the C.P.R. at Vancouver. The Co. also operate a car transfer from Union, connecting with the C.P.R. at Vancouver, for the handling of Comox coal. An additional 5

miles of line has also been constructed by this Co. from the main line, branching off at Fiddicks Jct., 8 miles north of Oyster Harbor, & running to the Wellington Extension mines. (Jan., pg. 8.)

**Great Northern, U.S.A.**—It is said that this Co.'s line will be extended from its present terminus at Liverpool, 1½ miles to the Ferry station, on the south side of the Fraser River, opposite New Westminster, B.C. A recent visit of some of the chief officials to Vancouver revived the report that the Co. intends extending its line via New Westminster to that point.

**Hallifax & Yarmouth.**—This is the new name of the line heretofore known as the Coast Ry. of N.S. Construction has been closed down for the winter. During the past year 20 miles of railway have been built, & will at once be put into operation, which will make the terminus of the line at Barrington Passage, Shelburne Co., 50 miles from Yarmouth. The Co. expects to complete an additional section of the railway this year to Shelburne town. (Jan., pg. 8.)

**Intercolonial.**—Tenders have been asked for the erection of a freight warehouse at St. John, N.B. It will be a wooden building, 118 x 508 ft., built of spruce, birch & ash. The contractor must begin the warehouse as soon as 200 ft. of wharf and foundations have been prepared. This 200 ft. must be completely finished & the remainder constructed in parts as the Chief Engineer may direct. There will be 25 doors in all on both sides of the building for the reception of freight, & doors for the admission of teams on either end. The shed will also be equipped with a complete set of offices. The contract calls for completion by June 30.

The new grain elevator at St. John, N.B., has been equipped with a rubber driving belt measuring 3,529 ft.

**Interprovincial Bridge, Ottawa & Hull.**—On the south approach between Nepean Point & Sappers Bridge, work is being continued through the winter, & it is expected to have all the substructure completed early in the spring. On Jan. 19 we were advised that the centre portion of one truss of the superstructure was in place on the Hull side & another one was being erected. (Dec., '99, pg. 352.)

Notice is given that application will be made to the Ontario Legislature by the City of Ottawa & the Pontiac Pacific Jct. Ry. Co. for an act to legalize & confirm a by-law of the City of Ottawa respecting this bridge, & to extend the time for its completion & for the earning by the Co. of the bonus debentures.

**Kootenay Ry. & Navigation Co.**—On Jan. 18 we were informed that track laying had been completed between Bonner's Ferry, Idaho, & Kuskanook, B.C., & that preparations were being made to commence operation.

On the Co.'s subsidiary line, the Kaslo & Lardo-Duncan, grading has been completed from Argenta at the head of Kootenay Lake to Duncan City, B.C., with the exception of possibly about a mile. No track has yet been laid. (Dec., '99, pg. 352.)

**Manitoba & Southeastern.**—Track has been laid on the subsidiary line, the Minnesota & Manitoba, eastward from the southern boundary of Manitoba to War Road, Minn., where the station is located about 1½ miles from the mouth of the river. This gives a continuous line from Winnipeg. The right of way has been cut out further eastward to the north side of Baudette River, near where it empties into the Rainy River, which will be crossed here by a long bridge giving connection with the Ontario & Rainy River Ry., now under construction from Port Arthur westward. Some grading has been done between War Road & Baudette River, & is still being gone

on with, the location being largely through muskgs, where grading can best be done in winter. The line will doubtless be completed to the Rainy River this year. A daily train service is being operated between Winnipeg & Marchand, 50 miles, & twice a week a train is run to the end of track. (Jan., pg. 9.)

A bill is now before the U.S. Senate to provide for the erection of the bridge above referred to over the Rainy River. It provides that the Minnesota & Ontario Bridge Co., which is incorporated under the laws of Minnesota, may erect and maintain a bridge over Rainy River, at or near Cathcart's Point, Minn., just below the confluence of the Baudette River with Rainy River, the plan, location and elevation of the bridge, so far as the interests of navigation are concerned, to be determined by a board of three officers of the Corps of Civil Engineers, to be appointed by the Secretary of War. The bill, as originally presented in the Senate, provided that the bridge should have a draw or draws across the main channel of the river, leaving a clear water way between the piers on which the draw will rest of not less than 80 ft. The Committee on Commerce, to which the bill was referred, amended this clause by providing for a draw or draws over the main channel of the river, leaving a clear water way of not less than 160 ft. on one side of the pivot pier. It is understood that the promoters consider this width altogether unnecessary. The bill also provides that all railway companies in the U.S. or Canada desiring to use the bridge shall be entitled to equal rights relative to the passage of trains over it. Construction is not to be commenced until the Dominion Government has authorized the construction of such portion of the bridge as will occupy the portion of the Rainy River under the jurisdiction of the Dominion.

**Kingston & Pembroke.**—This Co. is applying to the Dominion Parliament for power to extend its line from Renfrew, Ont., across the Ottawa River to Bryson, Que., & also northward to the eastern branch of the Ottawa River. A press report says that surveys are being made, but this is not confirmed. (Nov., '99, pg. 326.)

**Lake Erie & Detroit River.**—When the Dominion Parliament last session voted a subsidy of \$3,200 a mile for the extension of this line from Ridgetown to St. Thomas, Ont., 44 miles, it was provided that it should be payable only in the event of adequate running rights over the Canada Southern between the points mentioned not being granted to the L. E. & D. R. on terms to be approved by the Railway Committee. Representatives

of the two companies were heard by the Railway Committee on Nov. 7 last, decision being reserved. The Committee has come to the conclusion that satisfactory arrangements cannot be made for running powers over the M. C., & the subsidy will therefore be granted to the L. E. & D. R. The Co.'s engineer has started to survey the line, & it is expected to start construction as soon as the weather will permit. (Dec., '99, pg. 360.)

**Michigan Central.**—On Feb. 3, we were informed in reference to the placing of a third truss on the cantilever bridge at Niagara Falls as follows.—“The new tower piers for the bridge have been completed, & the traveller for erecting the ironwork is being constructed. The erection of the ironwork will be started in about two weeks. The traveller will span both tracks, so that the work will be executed without any interruption of traffic, the material being lowered through an opening between the tracks made by cutting off the ties.” (Oct. '99, pg. 295.)

A rumor that this Co. intends to build a bridge across the St. Clair River, between Courtright, Ont., & St. Clair, Mich., is probably without foundation.

**Midland of Nova Scotia.**—M. Murphy, Provincial Government Engineer, recently inspected the section of this line between Windsor & the Shubenacadie River. The rails have also been laid on the other side of the Shubenacadie to Truro, but the line cannot be opened through owing to delay in completing the bridge over the Shubenacadie, which will be over 1,200 ft. long. Three piers have been completed on the east side & 2 on the west side, leaving 3 more to be built. (Jan., pg. 9.)

**Newfoundland.**—During 1899 18.25 miles were added to this system, namely St. Ann's to St. Johns, 9 miles, & from Notre Dame Jct. to Burnt Bay, 9.25 miles.

**Nova Scotia Steel Co.'s Ry.**—An unconfirmed report says that work will begin in the spring for an extension of this line from Sunny Brae, N.S., to Country Harbor. The line at present extends from Ferrona Jct., on the I.C.R., to Sunny Brae, 12.5 miles.

**Northern Pacific.** As far as can be ascertained this Co. has no intention of extending its lines in Manitoba this year. (Jan., pg. 9.)

**Ontario & Rainy River.**—Up to Feb. 12, 20.61 miles of track had been laid west from Stanley, & it is proposed to go on slowly until 40 miles have been laid. There is no object in rushing the work at this season of the year,

& it is being done leisurely with a small gang of men, as the timber work is somewhat behind & prevents rapid progress. Over 1,000 men are engaged altogether on the line, & good progress is being made with clearing right of way, rock work, &c. No announcement has been made as to the further location of the line towards Rainy River, though the whole of the distance has been surveyed by several routes, & a decision has probably been arrived at. Several interviews with engineers have appeared in the daily papers, & are given for what they are worth. Engineer Daffer is credited with saying that the line will run between Bad Vermillion & Turtle Lakes through the Rainy River district. Engineer McCarthy, speaking of the line from the western end at Rainy River eastward, says it will run from the crossing of the river through the townships of Worthington, Dilke, & Morley, thence through the Indian reserve & the townships of Shenston & Dobie, continuing parallel to the river to Emo. (Jan., pg. 9.)

A Minneapolis despatch, stating that the bridge over the Rainy River would be a mile long, is incorrect. The length will be only about 1,000 ft. The bridge will probably be a series of 150 ft. steel spans, with a draw or swing in the centre, the whole on concrete or masonry piers. Further information about this bridge is given under the head of “Manitoba & Southeastern Ry.” There will be a large bridge across Rainy Lake, which it is said will take about 4,000,000 ft. of lumber.

The Company has acquired all the water front from the boundary of Fort William along Thunder Bay, covering all the ground where the Neebing & McIntyre rivers empty into the Bay. The town of Port Arthur is applying to the Ontario Legislature to confirm a by-law exempting the Co. from taxation for 21 years, & aiding the Co. in other ways. (Jan., pg. 9.)

A Minnesota paper mentions a rumor that the Duluth & Iron Range Ry. will be extended from Tower, Minn., to connect with the O. & R.R. Ry., probably opposite Koochiching, Minn., which is situated on the south side of the Rainy River. Another report says that the Great Northern (U.S.A.) will build from Hibbing, Minn., to Koochiching.

**Ottawa & Gatineau.**—On the extension from Gracefield 60 miles north of Ottawa, to Maniwaki, no track has yet been laid. The rock work is being proceeded with this winter with the intention of pushing the grading through to Maniwaki during next summer. (Nov. '99, pg. 327.)

**Ottawa & New York.**—It is said work on the St. Lawrence Bridge at Cornwall has been suspended until spring. It is hoped to

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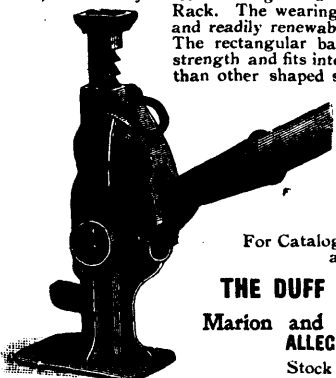
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have it completed by June, when the through traffic will be established between the terminal points of the road. The cost will be greatly enhanced, owing to the accident a year ago, which necessitated the tearing down of the large portion of the work nearly completed. (Jan., pg. 9.)

**Ottawa Union Station.**—As a solution of the difficulty which railways in Ottawa seem to experience in a marked degree at the present time, a terminal scheme is suggested by some local railway men & from the success by attending such projects in other cities, it is by no means an unreasonable proposition. The fact, however, that some of the railway corporations are already secure in their rights & naturally inclined to tenaciously hold on to them is likely to have a militating effect against the successful accomplishment of any such scheme at the present time at least, or as long as the city is disposed to grant franchises which is perfectly within its province. A terminal system, it is pointed out, would do much to mitigate difficulties experienced in the past & by no means unknown at present in local railway circles. The scheme as operated elsewhere consists in the construction of a belt line by a terminal company owning all the tracks as well as the depots & on the payment of their proportionate share, allowing all roads to come in on an equal footing as well as being of benefit to industrial enterprises located in such a line. At the present time if a new railway wishes to enter a city it can get as far as the limits but no farther, inasmuch as the older roads first on the scene have acquired control of the running powers.—Ottawa Citizen.

**Pontiac Pacific Jet.**—Track having been laid on the Aylmer-Hull extension from Aylmer to Deschenes, work has been suspended for the winter. The intention is to resume operations as soon as the frost is out of the ground. (Jan., pg. 9.)

**Prince Edward Island.**—A contract for grading the first 10 miles of the Murray Harbor branch, from Charlottetown towards Murray Harbor, has been awarded to J. W. McManus, of Memramcook, N.B., who is said to have commenced work. (Jan., pg. 9.)

**Quebec Bridge.**—Press reports say that the G.T.R. management has been approached with regard to undertaking the construction of this bridge, with the result that the management has intimated that it does not see its way clear to do so, but would cooperate by using the bridge and by paying therefor.

The Quebec Bridge Co. has given notice of application to Parliament for an extension of the limit of time to complete the construction of the bridge & for other purposes. (Dec., pg. 353.)

**The Salisbury & Harvey Ry. Co.** proposes to extend its railway from Turtle Creek, Albert County, N.B., to Moncton, if sufficient assistance can be procured from the Dominion & New Brunswick Governments to provide a crossing over the Petitcodiac River. It is said the present highway bridge over the river at Moncton could be made available for both a railway & traffic bridge by rebuilding the present superstructure at a cost of about \$100,000. The citizens of Moncton have endorsed the scheme at a public meeting. A great deal of interest is being taken in the shale beds in Albert County, & it is said that the Albert Manganese Co. will start similar works in Moncton if direct communication with that city is provided. (Dec. '99, pg. 353.)

**The South Shore Ry.,** which now operates a line from St. Lambert, Que., to Sorel, 44.67 miles, is said to have about completed an extension from Sorel to Yamaska, between 8 & 9 miles in length.

**United Counties.**—The Rutland Railway, which recently secured control of this line, is anxious to build wharves & elevators at Sorel, & has approached the town corporation in regard to a bonus.

**White Pass & Yukon.**—The contractor for the section from Caribou Crossing to Closeleigh, M. J. Heney, arrived at Victoria, B.C., Feb. 14, from the North, & in an interview said:—"The railway from Skagway to Bennett is in excellent shape, & daily trains are running on the summer schedule. It has been blocked twice, once for 6 days, & once, when the rotary snow plough broke, for 16 days; but as soon as we got the plough partly repaired we opened the road, although one of the cylinders of the plough was gone. This has been replaced & the line will probably not be closed again. I am now working 750 men in construction, & on my return I will begin to increase the force steadily, so that by the time spring opens there will be fully 2,000 at work. We will then keep up work steadily day & night, working 2 shifts of 12 hours each, but as we pay by the hour men often work for more than 12 hours. It is never so dark that all kinds of work cannot be done as well at midnight as at midday. The 42 miles from Caribou Crossing to Closeleigh, at White Horse Rapids, is nearly all completed so far as the roadbed is concerned. Tracklaying will begin in April, for I have a lot of rails, a locomotive & a number of cars at the Crossing. There are two large bridges to be put in & the timber is about ready. By June 10 I will have a train running from Caribou Crossing to Closeleigh. From Bennett to Caribou Crossing the work will keep me very busy until the middle of Aug. But I am confident that by Aug. 15 a train will run from Skagway to Closeleigh without change. Of course these plans presuppose that nothing will happen to interfere with the work." There has been a good deal of cold weather in the Yukon valley, Mr. Heney says, but the snowfall has only been enough to make good roads. He is running his Red Line Transportation sleighs as far down as Five Fingers, where connection is made with the Canadian Development Co.'s horse sleds & dog teams running to Dawson. There is a splendid two-horse road all the way to Five Fingers. Below that the road is for single horses. He expects there will be a large passenger travel this way to Cape Nome, & he has already received a number of inquiries as to the carrying of freight for Nome down the river. (Dec., pg. 353.)

The Superintendent took the snowfall at various points along the line of the railway for Dec. last, with the following results:—Glacier, 90½ ins.; White Pass, 55; Fraser, 42½; Log Cabin, 74½.

**York & Carleton Counties, N.B.**—It is said that work on this line of 6 miles, from Cross Creek station, on the Alex. Gibson Co.'s Railway, to Stanley village, will be commenced early in the spring. (Oct. '99, pg. 297.)

#### A Mix-up Straightened Out.

The Railroad Gazette, New York City, says in a recent issue:—

"WINNIPEG, MAN.—It is stated that the Canadian Pacific has decided to rebuild the burned station & hotel here at a cost of \$1,000,000."

The C.P.R. station in Winnipeg has not been burned since the 80's, when it was immediately rebuilt. The C.P.R. never had an hotel in Winnipeg. The Northern Pacific station & hotel in Winnipeg were burned in 1899. The station & offices have been rebuilt, but the hotel is not to be rebuilt. The C.P.R. Co. intends to take down its present station in Winnipeg & to replace it by a combined station, train shed & hotel, which will cost about \$800,000.

#### Great Northern Ry. Equipment.

The G.N.R. Co. of Canada has invited bids for the following equipment to be delivered by June:—4 8-wheel passenger engines, 3 10-wheel passenger & fast freight engines, 2 10-wheel compound fast freight engines, 2 sleeping coaches, 2 parlor coaches, 1 official car, 6 1st class passenger coaches, 8 2nd class passenger coaches, 6 baggage, mail & express cars, 200 box cars, 25 cattle cars, 75 platform cars, 3 conductors' vans, 3 refrigerator cars, 3 snow plows, 19 hand cars, & 13 push cars. Following are extracts from the specifications:—

Eight-wheel passenger engines to weigh 86,000 lbs. on drivers & 44,000 lbs. on truck; cylinders 20 ins. diameter x 26 ins. stroke, single expansion type; driving wheels, centres 66 ins. diam., of steel, mounted with crucible steel tires 3 ins. thick, finished diameter to be 72 ins.; boiler extended wagon top type, working pressure 200 lbs. per sq. in.; heating surface not less than 2,200 sq. ft.; tender 8 wheels, tank capacity 5,000 imperial gals.; coal 17,000 lbs.; high speed air brake; steel brake beams, automatic couplers with spring buffer; weight with supplies approximately, engine 130,000 lbs., tender 45,000 lbs., water 50,000 lbs., coal 17,000 lbs., total 242,000 lbs.

Ten-wheel engines for heavy passenger & fast freight service to weigh 124,000 lbs. on driving wheels & 36,000 lbs. on truck; cylinders 20 ins. diam. x 26 ins. stroke; 3 of single expansion type & 2 compounds of the 2 cylinder class; 6 driving wheels, centres 63 ins. diam., steel, with open hearth steel tires 3 ins. thick, middle pair without flange, finished wheel, 69 ins. diam.; wheel base driving 15 ft. 4 ins., rigid 15 ft. 4 ins., total wheel base 26 ft. 11 ins.; boiler extended wagon top, working pressure 200 lbs. per sq. in.; heating surface not less than 2,200 sq. ft.; tender 8 wheels, air brake quick action, double spring buffer with coupler, other details same as passenger tenders; weight with supplies approximately, engine 160,000 lbs., tender 45,000 lbs., water 50,000 lbs., coal 17,000 lbs., total 272,000 lbs.

Sleeping coaches 70 ft. long, with vestibuled platforms, trucks 6 wheels, decks of imperial design, triple windows arched over in clear story, stateroom at one end, Westinghouse high speed air brake.

Parlor cars 65 ft. long, with vestibuled platform at one end, other end to have observation platform 7 ft. long, end of body being set back for purpose, less sides and roof which remain; truck 6 wheels; ceilings of upper & lower decks imperial design, triple windows arched over in clear story, lavatory apartments at one end; drawing room; smoking room; dividing partitions between parlor & rooms; chairs of revolving & reclining pattern; Westinghouse high speed air brakes.

First class passenger coaches, body 60 ft. long, with vestibuled platforms, trucks 4 wheels; ceilings of upper & lower decks of imperial design; triple windows; smoking room; Westinghouse high speed air brakes; seats standard plush high backs, wood frames; smoking room seats strong leather covering.

Second class passenger coaches, body 60 ft. long; vestibuled platforms; trucks 4 wheels; half of body to be partitioned off for smoking room; Westinghouse high speed air brakes.

Baggage mail & express cars, body 60 ft. long, with vestibuled platforms, 4 wheels, interior divided into 3 for baggage, mail, & express; Westinghouse high speed air brakes.

Box cars 70,000 lbs. capacity; length 37 ft.; cars to have an excess capacity of 6,000 lbs. inside for grain carrying.

Cattle cars 50,000 lbs. capacity; length 37 ft.; quick action air brake.

Platform cars 60,000 lbs. capacity; length 37 ft.; excess capacity 6,000 lbs.; air brake. Conductors' vans, body length 28 ft.



Refrigerator cars, length 36 ft. inside; capacity 70,000 lbs. or over; gross weight not to exceed 112,000 lbs.; quick action air brake.

### Grand Trunk Equipment.

The Co. recently placed an order for 500 box cars, not 2,000, as stated in the daily press, to be built at its Montreal shops.

Five more first-class passenger cars of the 800 series, as described in our Jan. issue, pg. 11, have recently been turned out from the Montreal shops.

The Co. will build at its Montreal shops this year 24 simple mogul locomotives, similar to those built last year. They will have cylinders 20 in. by 26 in.; drivers 62 in. in diam., & a total weight of 159,068 lbs., of which 135,480 lbs. will be on the drivers. The boilers will be of the extended wagon top type, with a working steam pressure of 200 lbs. There will be 283 charcoal iron lap-welded tubes, 2 in. in diam. & 143 in. long. The fireboxes will be of steel, 120 ins. long & 40½ in. wide. The tank capacity for water will be 4,500 gals, and the coal capacity 20,000 lbs.

During the past year the Co.'s shops at Montreal were very busy. Full time has been the rule, a large number of engines & cars have been turned out, & hundreds of cars have been repaired. The following rolling stock was built in the car shops & put in operation during 1899. Two composite cafe-parlor cars, composed of drawing room, seating 12 persons, a dining room to accommodate the same number, buffet & smoking rooms, with large & commodious separate toilet rooms for women & men. These cars run on the day expresses between Montreal & Toronto. Luncheon is served in the dining

room compartment any time during the day, thus obviating the necessity of passengers leaving the train for refreshments while en route between the two cities, & saving a considerable amount of time in the run, the 333 miles now being made in a little over 8 hours. Seven 1st class modern coaches of the 800 series & 2 composite 2nd class & baggage cars were built & added to the rolling stock. Other cars turned out of the Montreal shops were 230 box, 200 flat, 153 coal (all of a capacity of 30,000 tons), & 50 cinder cars. On the Middle Division two of the latest & most approved dining cars replaced those of a more ancient pattern. They are beautifully fitted throughout, & the interior decorations are of handsome design without any gaudy effect. Meals are served on these cars a la carte.

Ten cabooses have been built at the Montreal shops. They are very comfortably fitted up, having seats on each side with heavy plush cushions, which can be utilized as lounges when needed. A stove with oven attached is provided in each van for the convenience of the men in providing their meals. Each van also contains an ice box, a commodious writing desk & a roomy wardrobe the whole height of the van.

The repairs in the Montreal shops included 916 passenger cars & 4,573 freight cars, & 3,240 freight cars were equipped with M.C.B. automatic couplers & Westinghouse air brakes. All the new passenger equipment is fitted with wide vestibule, the Co.'s standard platform & buffing arrangements. They have also all other latest conveniences & safety appliances.

In the motive power shops the following engines were built & placed in service: Six 10-wheel large passenger locomotives, 6

8-wheel large mogul locomotives for hauling freight, & 10 locomotives of smaller type. In addition to these the Co. purchased from the Baldwin Locomotive Works 10 compound consolidation freight engines, which are now in operation on the different divisions of the system. At present the motive power shops are in the throes of a busy season, & hundreds of men are to be seen working on 24 large mogul locomotives now in course of construction.

### Railway Equipment Notes.

The Bay of Quinte is having 10 flat cars built with 60,000 lbs. capacity.

The Central Vermont is building a few cinder & some flat cars at its shops at St. Albans, Vt.

The Algoma Central has recently placed an order for 50 steel cars of 100,000 lbs. capacity.

It is likely the Kingston & Pembroke will order a 75 ton mogul locomotive & 30 flat cars.

The Quebec Central is said to want 7 or 8 passenger cars & about 150 box & some platform cars.

The South Shore is said to be in the market for 2 locomotives, & will probably want 50 box cars soon.

The Dominion Atlantic has recently built 25 large coal cars & 2 cattle cars at its shops at Kentville, N.S.

The Minneapolis, St. Paul & Sault Ste. Marie management states it is not in the market for passenger cars.

## 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.

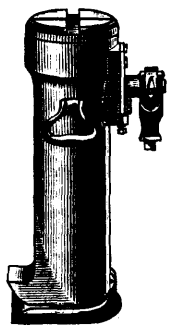
Write for maps and full particulars.

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

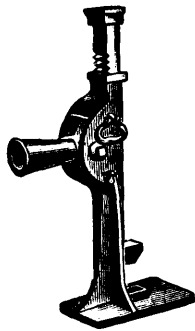
## Norton's Ball Bearing Jacks.

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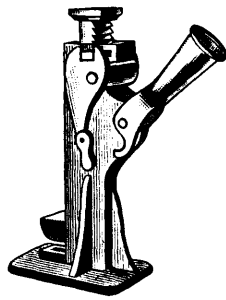
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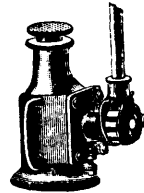
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15 Ton Track Jack.



8 Ton Jack.

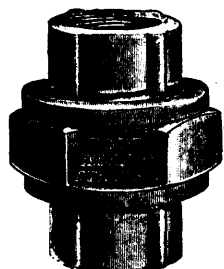
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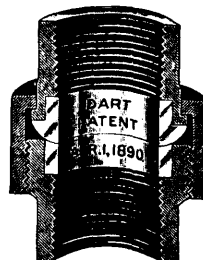
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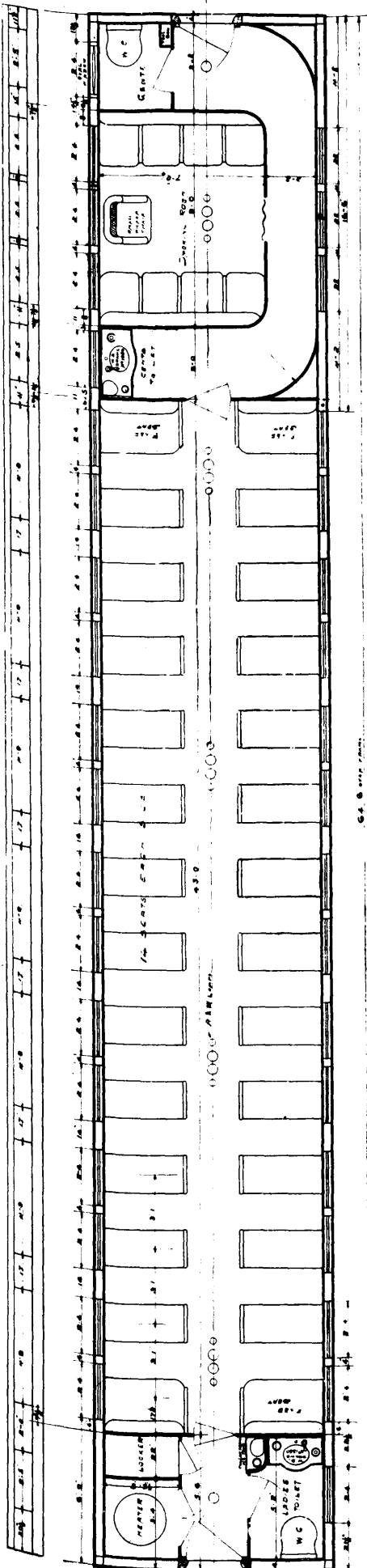
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Agents for Canada.



FLOOR PLAN FIRST CLASS PASSENGER CAR, CANADIAN PACIFIC RAILWAY.

Rhodes, Curry & Co., Amherst, N.S., are building 40 platform cars of 60,000 tons capacity for the Dominion Steel Co.

The Canadian Northern will be in the market this spring with a miscellaneous order for equipment, but no announcement has yet been made as to what it will consist of.

The Baldwin Locomotive Works has about completed the second 65-ton engine ordered by the Esquimalt & Nanaimo for handling coal cars. The E. & N. has recently purchased 300 coal cars.

The Newfoundland Ry. is having four 10-wheeled locomotives built at the Baldwin Locomotive Works. Following are the general dimensions: Cylinders, 17 x 22 in.; gauge, 3 ft. 6 in.; driving wheels, 50 in. in diameter; tank capacity, 2,800 gall.; weight in working order, total about 91,000 lbs., & on drivers, 73,500. Delivery is to be made in Feb. & April.

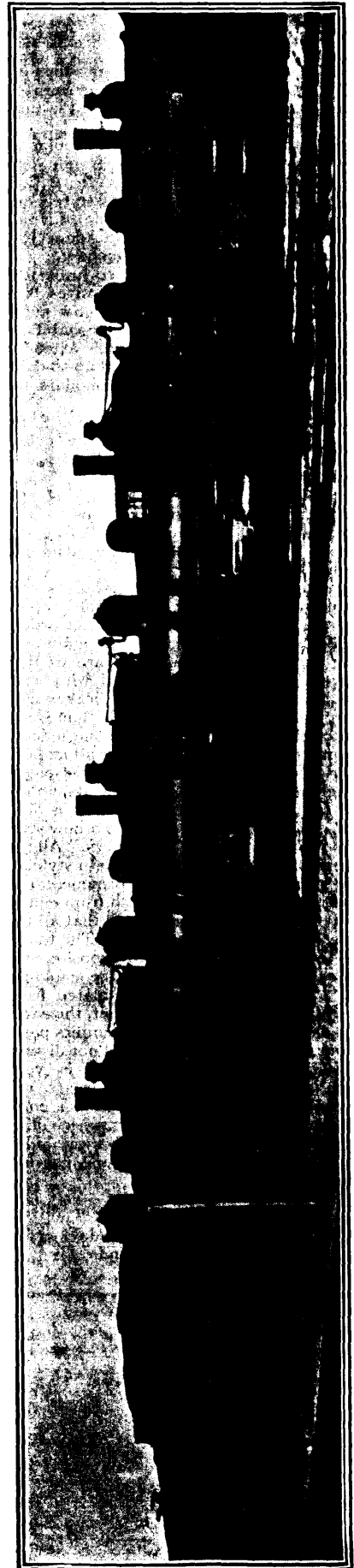
The Michigan Central has recently completed at its St. Thomas, Ont., shops a 10-wheel locomotive. The cylinders are 19½ x 26 ins., & the total weight is 146,700 lbs., of which 112,900 lbs. are on the driving wheels. The driving wheels are 63 in. in diameter. The total heating surface is 2,484.35 sq. ft., of which 2,329.60 sq. ft. are afforded by 320 tubes 2 in. in diameter & 14 ft. long, & 154.75 sq. ft. by the fire box. The working pressure is 180 lbs. The weight of the tender empty is 46,550 lbs., & loaded 110,000. The water capacity is 5,100 gall. & coal capacity 10 tons.

The Canada Atlantic will, it is said, build 700 box cars of 70,000 lbs. capacity at its Ottawa shops this season. The shops were shut down recently on account of scarcity of material, but will soon be re-opened, when about 400 men will be employed & 4 or 5 cars a day will be turned out. It is said that no locomotives or passenger cars will be added to the rolling stock this year. The locomotives are being overhauled in preparation for the busy season. Thirty cars, 40 ft. long, with a capacity of 70,000 lbs., have recently been completed at the Ottawa shops for use in President Booth's log traffic between the Upper Parry Sound district & Ottawa.

The heavy compound decapod locomotive mentioned in our last issue as being ordered by the Minneapolis, St. Paul & Sault Ste. Marie Ry. from the Baldwin Locomotive Works, will be delivered in Aug. It will have cylinders 17 in. & 27 in. x 34 in.; drivers 55 in. in diam., & will weigh 210,000 lbs., of which 190,000 will be on the drivers. The boiler will be of the extended wagon top type with radial stays, & a working steam pressure of 215 lbs. The tubes will be of charcoal iron, 2 in. in diam.; the firebox will be 121 in. long & 42½ in. wide. The tank capacity for water will be 6,000 gals. & the coal capacity 9 tons. The special equipment will include Westinghouse air brakes.

General Manager Pennington, of the Minneapolis, St. Paul & Sault Ste. Marie, states that the two-cylinder compound locomotive which has been in passenger service for some time, is making an excellent record. This engine runs on train 108 from Harvey, which it leaves at 6.05 a.m., to Camden place, which it reaches at 6.10 p.m., a run of 12 hrs. & 5 min. The train consists of 9 cars, which makes a train tonnage of 349 6-10. There are 55 stops, with an average mileage of 7.14 between each one. The speed is 52 miles an hour, with a maximum of 67. It is notable that this is a regular continuous run, & it is said that hot bearings on this engine are practically unknown.—Railway Engineer.

**Northwest Railway Lands.**—On Feb. 20, the House of Commons adopted the following resolution, moved by F. Oliver, M.P. for Alberta:—"That in the opinion of this House, all lands earned by railway companies in the Northwest should be allotted & patented to them forthwith, so that they may begin as



MOGUL LOCOMOTIVES RECENTLY BUILT AT THE INTERCOLONIAL RAILWAY SHOPS, MONCTON, N.B.

soon as possible to bear their share of taxation for schools & for making road improvements in the Northwest Territories."

**Canadian Pacific Equipment.**

About 2,000 cars were added to the Co.'s equipment during 1899.

The Co.'s Hochelaga & Farnham shops are running full force repairing passenger coaches. The shops at Perth are fully occupied in turning out new box cars.

The Co. anticipates completing & equipping between now & July 1st, 4,000 freight cars with Westinghouse air brakes & M.C.B. couplers, to comply with the Interstate Commerce law. The work will be done at Hochelaga, Outremont, Farnham, McAdam Jct., Carlton Jct., Toronto Jct. & Winnipeg.

At the Co.'s Montreal shops 10 passenger locomotives, 10 switching locomotives & a number of freight locomotives are now under construction. It is among the probabilities that these shops will be considerably extended at an early date by the erection of up-to-date, roomy buildings, so as to accommodate the growing necessities of the Co.

An order has been placed in the U.S. for building 200 coal cars for the Crow's Nest Pass line. Following are the dimensions: Length, 35 ft. 7 in.; width, 9 ft. 11 in.; length of hopper inside, 35 ft. 1 in.; width of hopper inside, 8 ft. 5 in.; height of hopper inside, 4 ft. 2 3/4 in.; height of car from rail, 8 ft. 4 in.; 4 hopper doors; trucks, all metal diamond pattern.

On pg. 45 is a floor plan of 1st-class passenger coaches nos. 600 & 601, recently turned out of the Co.'s Hochelaga shops, & orders have been given for building 8 additional similar ones there. These cars are 64 ft. 6 ins. over frame, & are equipped with wide vestibules, 6 wheel trucks, triple brakes with 14 in. cylinders, & in addition to lamps are wired for electric light. They are magnificent in appearance. The woodwork is all mahogany, bright-polished & inlaid. The passenger compartment contains 28 double seats, upholstered in terra-cotta plush, with extra high backs. The feature of the cars is a new style of dome roof, with globe ventilators. All the furnishings are of the most modern style, & the large brass hat-racks are ornamental as well as useful. The roof is plush from end to end, & the seats are so arranged that all the passengers can face the engine. The toilet-rooms for women & men are at opposite ends of the car, the men's being next the smoking-room. The smoking-room is isolated from the regular passenger compartment, the same as in a sleeping-car, so that passengers passing from one car to the other will not disturb the smokers. This compartment is very roomy, and contains 10 separate seats, upholstered in Russia leather, as well as a comfortable rattan easy chair. A heavy rich olive green portiere hanging in the doorway hides those in the doorway from anyone passing through the cars.

W. Mackenzie & D. D. Mann, of Mackenzie, Mann & Co., have gone to England.

**Intercolonial Railway Equipment.**

Six 1st class passenger cars were received during January.

It is said that 100 box cars of 60,000 lbs. capacity are to be built at the Moncton shops, & that work on them will be started at once.

The 500 box cars ordered in Dec. will be of 60,000 lbs. capacity, 35 ft. long, 8 ft. 11 in. wide & 6 ft. 11 in. high. The specifications call for Westinghouse air brakes.

The illustration on pg. 45 shows 4 mogul locomotives for freight service recently turned out of the Moncton shops. Their erection began Oct. 2, 1899, & they were completed Jan. 8. Following are the principal dimensions: Cylinder, 18 in. x 24 in.; driving wheels, 57 in.; boiler, extension wagon top, 53 in. diam, at smallest course; fire grate, 5 ft. 10 1/2 in. x 2 ft. 10 1/2 in.; tubes, 196, 2 in. diam. x 11 ft. 10 in. long; tender tank, 3,500 imperial galls. It is said orders have been placed for building some more locomotives at Moncton, but we have no official information in regard to them.

**RAILWAY APPOINTMENTS, Etc.**

**Algoma Central.**—W. B. Rosevear has been appointed assistant to President Clergue.

**Alex. Gibson Ry. & Mfg. Co.**—F. L. Robinson has been appointed Auditor & General Passenger Agent, with office at Marysville, N.B., succeeding A. McN. Shaw, resigned.

**Canada Atlantic.**—J. E. Duval, heretofore Chief Despatcher, has been appointed Car Service Agent with office at Ottawa. In addition to the regular duties of Car Service Agent, he will have charge of car mileage accounts, formerly looked after by the General Auditor, & will also receive the 4 o'clock car report, & direct the distribution of cars.

**Canadian Pacific.**—W. F. Tye, who has been Manager of Construction of the Columbia & Western Ry., has been appointed Chief Engineer of Construction for the Co.'s entire system, with headquarters at Winnipeg for the present. He will have charge of the construction of all lines, & it is understood that he will fully complete any that may be built, not turning them over to the operating department until they are thoroughly finished.

P. J. Dennis has been appointed Engineer in charge of maintenance over the entire system. It is understood that his duties will relate to track maintenance & that he will report to the Assistant General Manager.

J. R. Sullivan, who has been Assistant Engineer of the Columbia & Western Ry. extension from West Robson to Midway, has been appointed Division Engineer of that branch.

Capt. J. W. Troup, Superintendent of the Co.'s Columbia & Kootenay steamers, has also been given charge as Superintendent of the consolidated branch lines in the Kootenay district, including the Columbia & Kootenay

Ry., Slocan branch, Nakusp & Slocan Ry.; Rossland branch, Columbia & Western Ry., & Boundary Creek branch. The steamboat lines under his jurisdiction include the Columbia River & Arrow Lakes, & Slocan, Kootenay & Okanagan lakes. H. E. Beasley who has heretofore been Superintendent at Nelson, has been transferred to the Co.'s head office in Montreal, where it is understood he will be located in the President's office. It is said that F. P. Gutelius, heretofore Superintendent of the Rossland branch, will be appointed to a position in the Engineering Department.

D. O. Lewis has been appointed Division Engineer of the lines in the Kootenay district, B.C.

J. F. Hamilton has been appointed Trainmaster in the Kootenay district, B.C.

Captain E. F. Gore has been made Port Captain at Nelson, B.C.

W. Wallace, Roadmaster at Ottawa, having left the Co.'s service, the district formerly under his jurisdiction has been divided between Roadmasters J. M. Guenette & J. Jelly. Roadmaster Guenette's division embraces the Montreal & Ottawa line & the Chaudiere & Prescott branches. Roadmaster Jelly's division embraces the main line from Ottawa to Chalk River, & the Brockville & Atlantic & Northwest branches.

Hayter Reed, for many years connected with the Dominion Indian Dept. in the Northwest Territories, afterwards Deputy Superintendent General of Indian Affairs at Ottawa, & now Manager of the St. James Club, Montreal, has been appointed Manager of the Chateau Frontenac Hotel, Quebec.

**Central Vermont.**—R. L. Burnap has been appointed Commercial Agent at New York City, vice F. S. Holbrook, resigned. Office at 88 Wall street.

**Duluth, South Shore & Atlantic.**—T. W. Smith has been appointed Assistant Superintendent of the Mackinaw division & of the Mineral Range Ry.

**Grand Trunk.**—F. E. Rankin has been appointed Claim Attorney for the system lines west of the Detroit & St. Clair rivers, with office at Room 14, Buhl Block, Detroit, Mich. He will have charge of the investigation & settlement of all claims arising in connection with personal injuries, fires, & stock killed on those lines.

P. J. Lynch having been transferred, the office of Trainmaster, 6th & 7th districts, is abolished.

W. G. Brownlee has been appointed Assistant Superintendent, 6th and 7th districts, in charge of matters pertaining to transportation; office, Belleville, Ont. Mr. Brownlee was heretofore Division Superintendent of the Missouri Pacific at St. Louis, Mo.

F. W. Gieselman, heretofore at the Co.'s Dearborn st. station, Chicago, has been appointed Baggage Master at Bonaventure station, Montreal, vice McCallum, retired.

The resignation of S. Walker as foreman of



## Richmond Locomotive and Machine Works,

RICHMOND, VIRGINIA, U.S.A.

BUILDERS OF

Simple and Compound

# LOCOMOTIVES

Adapted to every variety of service.

the erecting shop at Montreal, has resulted in the following changes among the foremen: Foreman of erecting shop, J. Farrar; assistant pro tem, R. Cowan; foreman of machine shop, J. Millington; assistant, F. Dalrymple; foreman of wheel shop, A. W. Dutton.

A recent daily press item stated that Dr. R. A. Towns, of Sarnia, Ont., had been appointed Medical Adviser to the Western division of the G.T.R. We are officially informed that there is no truth whatever in the statement.

It is understood that G. B. Reeve, General Traffic Manager of the G.T.R. system & of the Central Vermont Ry., will resign his positions, to take effect at the end of April, & that he will reside in California in future. No announcement has been made as to who will succeed him.

**Great Northwest Central.**—L. A. Hamilton, Land Commissioner of the C.P.R., has been also appointed Land Commissioner for this Co., whose line is being leased to the C.P.R. in perpetuity.

**Michigan Central.**—E. D. Bronner, heretofore Assistant Superintendent of Motive Power & Equipment, has been appointed Superintendent of the same, succeeding Robt. Miller, who has been in the Co.'s service since 1876, occupying the positions of Master Car Builder, Assistant General Superintendent, General Superintendent, & Superintendent of Motive Power & Equipment.

**Northern Pacific.**—G. W. Hardisty has been appointed District Freight & Passenger Agent at Montreal, succeeding T. Henry, who has entered the service of the R. & O.N. Co.

**Pullman Co.**—In the amalgamation of the Pullman Palace Car Co. & the Wagner Car Co. the corporate name has been changed to the Pullman Co. The Pullman staff in Canada has been retained in its entirety; the office & staff of the Wagner Co. at Montreal has been abolished, & the former Wagner Superintendent & Assistant Superintendent have been assigned to other duties in the Pullman Co.'s service. Division Superintendent J. S. Merrill, New York, has jurisdiction over the Pullman lines in Canada, & the Division Superintendent at Montreal has supervision of all Pullman lines in Canada, taking in the Grand Trunk, Canada Atlantic, & joint lines running over the C.P.R. on which Pullman cars are run, & also of the lines running into Montreal & Toronto from New York & Boston. The officials at the Montreal office are W. A. Ritchie, District Superintendent; G. A. Temple, Assistant District Superintendent; W. B. Fisher, Receiving Cashier. The agency at Toronto hitherto held by a G.T.R. official, was filled by the appointment of T. B. Montgomery, who has, however, resigned to take a commercial position in Chicago & has been succeeded by M. C. Dawson, formerly Wagner Superintendent at Montreal.

H. M. Pflager, heretofore Chief Mechanical Inspector, has been appointed Mechanical Superintendent, with headquarters at Chicago, Ill.

**White Pass & Yukon.**—J. R. Van Cleve, has been appointed Master Mechanic. He has been Master Mechanic of the Great Northern at Kalispell, Mont.

### Mainly About People.

Sir Wm. Van Horne spent most of Feb. in Cuba.

C. R. Mackenzie, for many years Superintendent of the Shedden Co. at Toronto, died there Feb. 5.

E. J. Coyle, Assistant General Passenger Agent of the C.P.R. at Vancouver, has been enjoying a holiday trip in the east.

D. D. Mann, of Mackenzie, Mann & Co., has bought 166 St. George St., Toronto, & will remove there from Montreal in the spring.

W. R. Baker, General Manager of the Manitoba & Northwestern Ry., is spending some time in England, accompanied by Mrs. Baker.

A. G. Blair, jr., eldest son of the Minister of Railways, was married at St. John, N.B., Jan. 17, to a daughter of Dr. Holden, of that city.

Mrs. T. G. Shaughnessy gave a brilliant ball at the Place Viger Hotel, Montreal, Jan. 16, for her daughter, who is one of this year's debutantes.

C. S. Proctor, Travelling Passenger Agent of the G.T.R. at Toronto, was married at Collingwood, Ont., Feb. 14, to a daughter of Capt. Campbell.

J. R. Cowans, General Manager of the Cumberland Ry. & Coal Co. of N.S., was married in Montreal, Jan. 31, to Miss McLeod, of Springhill, N.S.

Mrs. G. B. Reeve, of Montreal, wife of the General Traffic Manager of the G.T.R., left on Feb. 16 for California, accompanied by her children, to spend the winter there.

G. E. Tuckett, President of the G. E. Tuckett & Son Co., tobacco manufacturers, Hamilton, Ont., who died there Feb. 19, was also President of the Hamilton Steamboat Co.

R. Marpole, General Superintendent of the Pacific Division of the C.P.R., spent Feb. in California, accompanied by his two sons, enjoying the first holiday he has had for many years.

G. Simpson, Assistant Engineer of the Northern Pacific Ry. at Winnipeg, has been appointed Provincial Government Engineer for Manitoba and Chief Clerk of the Public Works Department.

Mr. Ross, formerly of the Anglo-American Telegraph Co. at St. Pierre, and latterly for a number of years Manager of the Panama Telegraph Co. at St. Thomas, W.I., died Jan. 14 at St. Kits, of dropsy.

G. C. Cunningham, General Manager of the Central London Ry., & formerly Manager of the Montreal Street Ry., has joined the Advisory Committee of the Tramway & Light Railways Exhibition, to be held in England shortly.

J. A. Cuttle, who was appointed temporarily as manager of the Montreal Transportation Co., succeeding D. G. Thomson, has been confirmed in the position. A. Kingman & B. McLennan have been appointed directors to fill vacancies on the board caused by deaths.

J. C. Moorehead, formerly Assistant Superintendent of the Michigan Central, has been appointed General Manager of the Ohio division of the Erie R.R., with headquarters at Cleveland, Ohio. He has also been appointed General Manager of the Chicago & Erie R.R.

Jas. Charlton, who recently retired from the position of General Passenger & Ticket Agent of the Chicago & Alton, after more than 28 years' service, was presented with a loving cup on Jan. 30 by the members of the Western Passenger Association at a luncheon given to him in Chicago, & attended by over 30 members of the Association.

It is said that in recognition of the excellent work done by them in connection with the construction of the Columbia & Western Ry., between West Robson & Midway, B.C., the C.P.R. Co. has liberally bonused the engineering staff, Chief Engineer & Manager of Construction Tye getting \$5,000, Assistant Engineer Sullivan \$1,000, & the divisional engineers \$500 each.

F. G. Jonah has been appointed engineer in charge of maintenance of way of the Chicago & Alton Ry., at Chicago. He was born at Moncton, N.B., in 1864, and entered the Chief Engineer's office of the Intercolonial Ry. in 1882. He was at first assigned to office duties, but subsequently acted as chainman, rodman, etc., on surveys of various

branch lines. He served in the maintenance department until 1887, when he was made Assistant Engineer in charge of the construction of a division of the Oxford & New Glasgow, a branch of the government system in N.S. Upon the completion of this work in 1889, he re-entered the maintenance department of the I.C.R. He became Assistant Engineer of the Merchants Bridge & Terminal Ry. in St. Louis in 1890, & held that position until 1894, when he became Resident Engineer on the St. Louis & Eastern, now the St. Louis, Peoria & Northern. He had charge of building that line between Springfield & Peoria. On the recent absorption of the line by the Illinois Central & the Chicago & Alton, he was transferred to the latter road.

### The Niagara Gorge Railway.

G. A. Ricker, who was Chief Engineer of the Niagara Falls & Lewiston Ry., read a paper in June last before the Engineers' Club, of Philadelphia, which contained some very interesting matter. B. Fenton & E. Bennett first proposed to build a steam railway with a gauge of 30 ins., from Prospect Park to the Whirlpool, & the Niagara Falls & Whirlpool Co. was organized. The Co. failed in its efforts to purchase a right of way, & on instituting condemnation proceedings the courts held that it did not meet the requirements of the railway law so as to entitle it to exercise the right of eminent domain. In 1889 Capt. J. M. Brinker, of Buffalo, organized the Niagara Falls & Lewiston R.R. Co., which purchased the stock of the old company. It decided to build a double track standard gauge road to connect with the electric & steam railways entering Niagara Falls & with the ferry at Lewiston. A survey was completed in Sept., 1890, & the right of way bought, the Co. securing the fee of the land. Mr. Schoellkopf, of the Niagara Falls Hydraulic Power & Manufacturing Co., opposed the plan to carry the road along the bank in front of his mills, but was defeated in the courts. He then suggested carrying the line up the high bank into the town, which plan was adopted & the location in front of the mills abandoned. The right of way was very expensive; the total cost is not given, but \$119,000 was paid for Buttery elevator & \$90,000 for the Van Horn & Grand View elevators. Mr. Ricker describes the construction of the road as follows:

"In order that we may better understand the actual operation of building, I will refer briefly to the geology of the Gorge. For our purpose the Gorge may be best considered as made up of three distinct sections; the upper or newly made channel excavated by the constantly receding falls; the middle or original channel, which is of preglacial origin, & the lower or postglacial channel. The characteristics of the typical cross sections of these three channels are widely different. The preglacial section is of least width, & has nearly vertical walls extending almost to the water on the United States side. The postglacial section is wider & has vertical walls to about one-third the depth of the Gorge, & steps down to the water which are covered with debris that has accumulated by regular contribution from the exposed walls above. The new system, which extends southerly from the railroad bridges, is much wider than the preglacial channel & has slopes or tali reaching nearly to the tops of the cliffs. This debris is much deeper than that resting on the steps of the lower channel, & no excavation has as yet been made of sufficient depth to disclose the steps.

"The river is now flowing through the Medina sandstone, which underlies all western New York. The railway at frequent intervals passes through sections of sandstone, & practically all the rock excavation was made in the quartzose belt of this stratum. Above the

sandstone lies the Clinton limestone, over the Niagara shale, & at the top of the cliff, the Niagara limestone. While the railway follows the irregular line of the foot of the talus from the whirlpool to Lewiston, the directions of the entire channel form, roughly speaking, 4 tangents. The new channel is about 2 miles long & extends approximately northeasterly from the present fall to the railway bridges. The preglacial channel is about a mile in length from the bridges northwesterly to the Whirlpool. The waters leave the Whirlpool in a direction nearly at right angles to that at which they enter, & continue northeasterly to the Devil's Hole, a distance of about 2 miles, & from Devil's Hole to Lewiston, about 2 miles more, running almost due north. The continuation of the preglacial channel, known as St. David's, lies directly to the northward in the extension of the line of the Whirlpool Rapids, & is plainly marked, but is nearly filled with glacial drift.

"About April 1, 1895, an agreement was entered into with Cragge & Tench, contractors of Buffalo, to build the Gorge railway in which the contractors were to secure the men, furnish all necessary tools, & their services, for 10% of the force account. After 5 tedious years of waiting the Co. suddenly decided to proceed with construction, & I received a telephone message from President Brinker to the effect that "the graders would be at Lewiston to start work to-morrow morning," & asking me to be on hand to give necessary directions. Construction was begun at Lewiston on April 11 & a few weeks later at several points along the line between Lewiston & the Buttery Elevator. Beyond a profile, which it was afterward found impracticable to follow, no plans were made as the result of the original survey.

"I am now confronted with a task more difficult than that of building the railway—how to tell you in engineering terms of the construction of this road that was built in a most unscientific manner. My orders were to put a railway in this unpromising place, & I proceeded forthwith to obey. Before stakes were set a path was graded, following, as nearly as possible, a few feet above the proposed grade-line, & gangs of laborers were placed at frequent intervals. No reliance

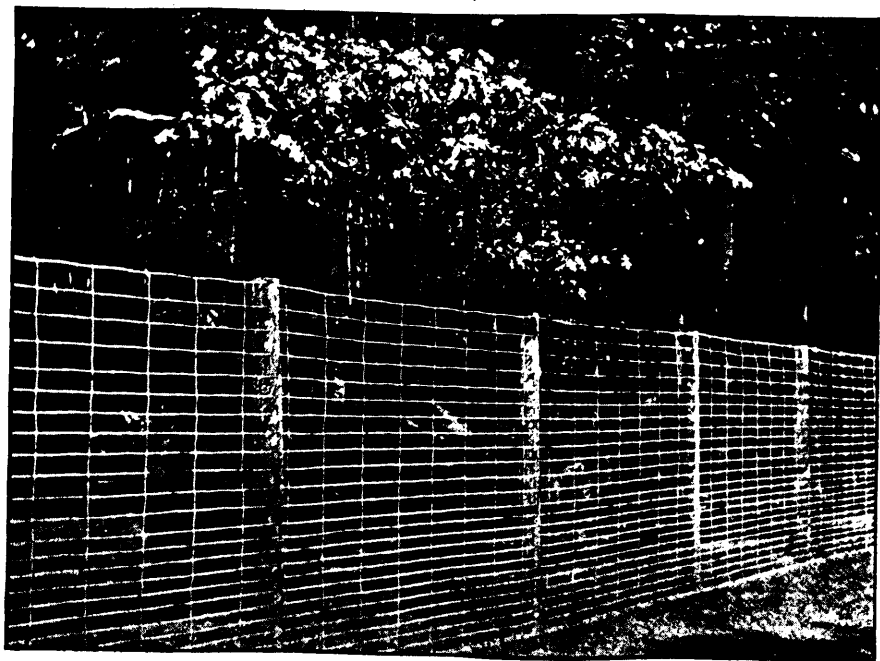
could be put upon any slope made outside of the natural slope. Had classification been attempted, but two kinds of material would have been named: loose & solid rock, as the talus is made up of large & small stones with not sufficient earth to fill the interstices, & with no cementing material, although the roots of dense vegetation tend to hold it in place & maintain a much stronger slope than would otherwise be possible. The deep channel of the river afforded the very best place for wasting the material excavated & work proceeded rapidly. From 600 to 1,000 men were employed, & the first five miles to Buttery elevator roughly completed, & one track laid, & the first train entered this temporary southern terminus August 25. On the inner side of the roadbed such a slope was formed as would stand for the time being, which, of course, meant that the heavy rains & the frost in the coming spring would bring down large quantities of material left on the steps above. Cross-overs were placed at such points as seemed to threaten most, & from time to time, as slide occurred, the road was operated with single track in that section, & large numbers of men quickly removed the encroaching talus. Several slides took place in the early spring of 1896 & again in the spring of 1897. The quantities decreased each year. A view of the slide of the spring of 1898 at the same point where occurred the greatest encroachment in '96 & '97, shows how surely the slopes are being reduced to an angle of repose & are taking on the appearance of stability. New vegetation adds greatly to their permanence & more agreeable appearance.

"Coming out of Lewiston at the south line of the village is a timber trestle 104 ft. in length & 42 ft. high, crossing a small stream flowing into the river from the foot of the Lewiston escarpment. A little further up the line is a timber trestle carrying the tracks over a deep gully formed by another lateral stream, into which for many years the New York Central R.R. has wasted its surplus earth & rock. It was my intention to use 80-ft. girders at this point, but owing to the crowded condition of the bridge shops, delivery could not be secured in several months, & as the Co. was extremely anxious to open the

road to catch the summer traffic, installation of the permanent structure was deferred. In the expectation that a large amount of water would filter through the talus, a great many open culverts were put in, but 4 years' experience has proved that the danger from this cause was overestimated. These culverts, to be effective, should be movable, as a boulder or other obstacle falling in the path of a stream high up on the talus will often divert the stream many feet from its former bed, & leave the culvert high & dry. The track is ballasted with rock borrowed from the talus over most of the line. The ties are of cedar, except on steep grades, where oak was used, & the rails weigh 60 lbs. to the yard. No attempt was made at mathematical alignment, as the roadbed followed the irregular outline of the natural slope.

"Construction from the Buttery elevator to the City of Niagara Falls was much more difficult than upon the lower 5 miles of the road. South of the elevator began almost vertical cliffs, extending from the top of the escarpment to the rapids below & continuing for a distance of about half a mile to the railway suspension bridge. Drills & men were lowered over the cliff to the first ledge, about 100 ft. above the grade line, & blasting operations carried on mostly by hand, as it was difficult to get steam drills into position. The blasts were fired usually at noon, & huge quantities of rock were thrown into the river, disappearing beneath the tumbling waters of the rapids below, without appearing in any way to obstruct the stream or to change in the slightest degree the form of the waves. The vertical cuttings averaged nearly 100 ft., & estimated roughly, fully 100,000 cu. yds. of rock were thrown into the river from this section.

"At the site of the Van Horn elevator a deep recess in the cliff formed a bay across which an attempt was made to construct a roadbed in the swift current of the rapids. This experiment I believed would be futile, as a powerful stream of water was constantly discharged upon the embankment, diverted from the main current by a high boulder of Niagara limestone resting in the channel about 50 ft. from the cliff. It was evident that this bay had been excavated by the same powerful hydraulic agency, & it was useless



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Can. Passr. Agent, TORONTO, ONT. Genl. Agent,  
BUFFALO, N. Y.



to attempt to place in its way any structure less substantial than the cliff which it had cut out. During a period of extreme high water in the spring of 1897, when the river rose 19 ft. above its ordinary level, most of this embankment was washed away. In its place rough, but heavy, longitudinal walls were built to resist the encroachment of the current; spaces between the walls were refilled with stone & a stout timber trestle built to carry the tracks. In the spring of 1898 this structure was swept away, after which the Co. determined to do what it might have profitably done at first, & the old elevator-shaft was removed, the cliff blasted away, & a shelf made of sufficient width for a single track. Three timber cribs, each about 60 ft. in length, protect the roadbed at critical points above this bay.

"Beneath the railway bridges a combination of difficulties was met. A small waterwheel under the Suspension Bridge, which furnished power for a flour-mill at the top of the bank, was rearranged to permit building the roadbed, the transmitting cable raised, & a portion of the tailrace changed & a retaining wall built to hold the embankment. Near this point is an inclined railway, the floor of which, resting directly over the centre line, was raised vertically about 15 ft. Between the incline & the cantilever bridge heavy walls were put in to hold back the loose rock on the inner side of the track, & retaining walls built on the outer side to prevent encroachment upon the head race.

"Permission was obtained from the Michigan Central R.R. to build abutments on both sides of the cantilever bridge piers and a central pier in front of & between their piers. The underlying material at this point is composed of very large boulders, upon which rest the foundations of the cantilever bridge, between which & the deep waters of the river there were but 13 ft. in which to pass. To prevent possible danger to the bridge foundations, blasting was prohibited within 100 ft. on the south side & 50 ft. on the north. No soundings could be obtained on account of the swiftness & great depth of the current. Within this limited area, hedged about by restrictions, construction was made doubly inconvenient.

"From the bridges to the top of the high cliff, a distance of nearly a mile, the tracks are laid on a slowly ascending grade up the talus for about 3,500 ft.; thence entering the cliff & passing through a cut 60 ft. deep at the lower section, rising continually until the top of the bank is reached. The average gradient is 4.7, the maximum 6.4% & the total elevation overcome, from the bridges to the top, is just 200 ft. Passing beneath the New York Central tracks, the line swings sharply to the right &, paralleling the Central for a few hundred feet, reaches Second St. in Niagara Falls. At the southern end of Second St. connection is made with the Niagara Falls St. Ry. and thence over the tracks of the latter company to Prospect Park. The under-crossing of the Central is made at an angle of 55°; the bridge is of trough girder type and carries at present 5 tracks.

"I think you will grant that it was not practicable to make detailed plans for construction of this peculiar road. It was not possible to determine, with even approximate accuracy, how the unseen conditions might

alter proposed methods. I cannot say that any very serious engineering difficulties were met with, & I think there are no problems to be solved that will not be successfully met. The same vigor & energy which characterized the attack upon the ground were exhibited later in the effort to put the road in operation, & as gangs of men & construction tools would have been unsightly, work was suspended as suddenly as it was begun. You will recall the fact that wooden trestles & bridges had been put in place because the Co. was not willing to wait for permanent structures. The work was, therefore, left unfinished, but I was sustained by the vain hope that in the coming spring I should be permitted to scale down the slopes & replace the temporary structures.

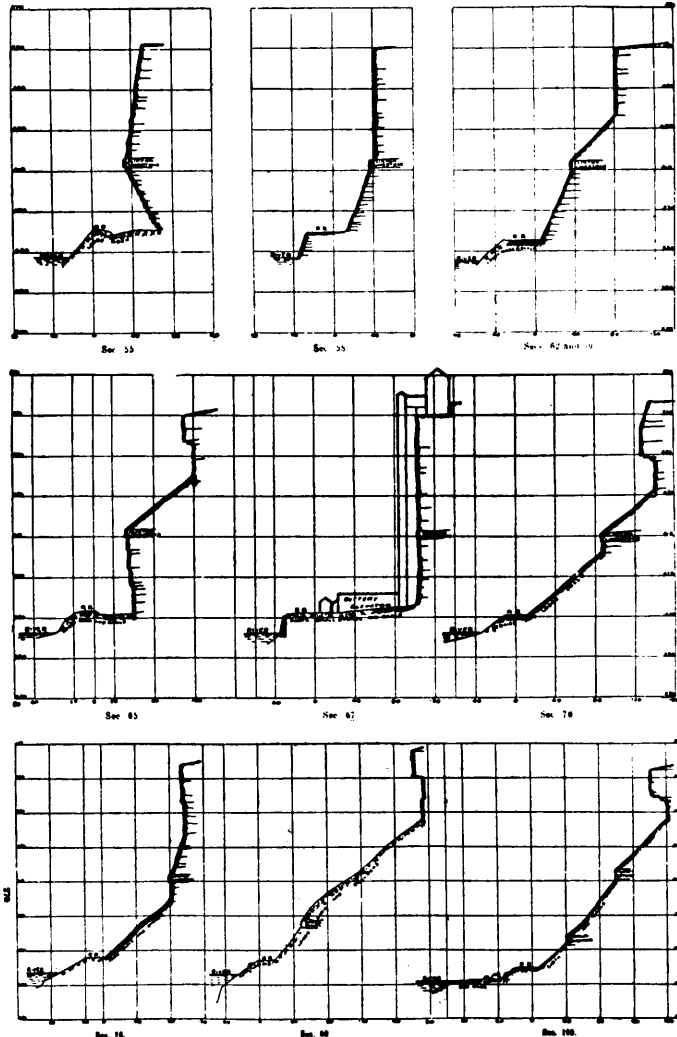
struction of the road, as considerable damage had been sustained by the track from slides & by the roadbed from the action of the river.

"A fall of rock that occurred in March, 1899, accounts of which appeared in the technical journals & in the daily papers, & called an avalanche, was greatly exaggerated. Before the road passed into the hands of the receiver I had recommended that some of the overhanging Niagara limestone just above the Buttery elevator be removed by blasting, as it seemed to be insecure. The railway was shut down; all people were warned not to walk upon the tracks, as it was intended before beginning operations to remove all overhanging rock which appeared to be dangerous. By reason of some blasting that was

going on near by, within 100 ft. of the point in question, where the city was excavating for a sewer, two large pieces of limestone were dislodged, falling between the tracks & the cliff without doing damage. A few days later our Superintendent blasted & threw off into the river the large boulders, which now rest in the margin of the rapids just outside of the tracks. A considerable amount of loose material, of course, fell with the boulders & covered the road for a distance of about 200 ft., a depth of from 3 to 5 ft. This was easily removed, & when taken away it was found that the rails were cut in several places, but that no great damage had been done, except to the lower portion of the shaft of the elevator, the casing of which had been carried away. Where these large rocks now stand in the river some difficulty had previously been found in maintaining the embankment, owing to the heavy current thrown against it, & a retaining wall about 400 ft. long had been resorted to for protection. With great good fortune these large rocks now stand directly in the way of the heaviest attack of this current, & the retaining wall is no longer necessary. In general it may be said in regard to falling rock that it comes down only in the early spring months, when, under the new management, it is not intended to operate the railroad.

"Since the opening of the road in 1895 to the present time no passenger or employe has ever received injury from falling rock. I was daily over the road during the construction, & have since been frequently from the Falls to Lewiston & return, both on cars & on foot, & have never seen a rock fall. It is my opinion that,

with due care, the maintenance of this railway need not be excessively expensive, & that the same safety of operation can be obtained as is secured on any mountain road."



SECTIONS OF THE NIAGARA GORGE.

"When 1896 arrived all our efforts were concentrated upon construction above the Buttery elevator, & this section, too, when nearly completed, was given over to operation in much the same incomplete form as was the lower. It was expected that immediate earnings would be so great that a goodly portion of them could be applied to completion of the work, but receipts proved disappointing, & all further work was suspended, excepting such as was necessary to clear the track of slides & to provide for maintenance. As the outcome of business complications the owners of the road were obliged to relinquish it a few months ago, & it passed into the hands of a receiver. Reorganization of the Co. is now being undertaken, & I am engaged in making the necessary repairs, which amount to a recon-

**The Montreal Elevator Syndicate.**—The Conners Syndicate has awarded a contract to the Barnett & Record Co., of Minneapolis, to build at Montreal a steel elevator with a capacity of 1,000,000 bush. of wheat, & 2 annexes with a capacity for storing 2,000,000 bush. It is said the construction of these structures will involve an expenditure of nearly \$1,000,000. Plans are being prepared & it is expected that the first sub-contract for piling will be let at an early date. This will require 2,620 piles. Some 2,000 tons of steel will be used in the structures.



## SHIPPING MATTERS.

## Richelieu &amp; Ontario Navigation Co.

At the annual meeting, Feb. 16, the following report was presented for the year ended Dec. 31, 1899:

	1899	1898
Gross receipts.....	\$828,322.96	\$728,943.97
Operating expenses.....	674,626.89	590,936.53
Fixed charges.....	24,966.00	25,970.89

Net profit.....\$128,730.07 \$112,027.55

Two semi-annual dividends of 3% each, amounting together to \$104,400, were paid, leaving \$24,330.07 carried to surplus. The gross earnings show an increase of \$99,378.99, due to the satisfactory condition of business generally & the improved facilities offered by the Co. to tourists. From the surplus of 1898 the directors have written off \$104,170.44, arising from claims now settled which have been in litigation for a number of years, & also from a reduction in valuation of some of the assets; leaving the accounts now free from all outstanding of every kind whatsoever.

The Co.'s hotel, at Tadousac, has been well patronized, & its business has continued very satisfactory. The directors having found a great want of good hotel accommodation at Murray Bay, are now constructing a large hotel at that point, which will be ready for the opening of next season.

The Co.'s new str. Toronto has realized, in regard to speed, economy, seaworthiness & attractive fittings, as well as in increased earnings, all that was anticipated. She was not ready as early as expected, which made some difference in the earnings of her route.

As indicated in last year's annual report, Parliament was asked at its last session, & has granted the power to increase the Co.'s capital to \$5,000,000. Under the deed of trust securing the Co.'s bonds issued in 1895, \$20,440.01 have been withdrawn & cancelled during the year, making a total to date of \$75,919.99, out of the original issue of \$571,833.33.

The directors are pleased to report the satisfactory condition of the Co.'s property, & of its relations with other transportation lines.

## FINANCIAL STATEMENT.

## ASSETS.

Steamers, real estate & buildings, wharves, etc.....	\$2,540,497.86
Coal, stores, provisions, etc.....	46,360.99
Accounts receivable.....	30,055.17
	\$2,616,814.02

## LIABILITIES.

Capital stock.....	\$1,740,000.00
Bonds 5% sterling.....	\$571,833.33
Less cancelled.....	\$75,919.99
In treasury.....	5,840.00
Bank loans.....	81,759.99
Accounts payable.....	490,073.34
Unclaimed dividends.....	165,803.17
Accrued interest on bonds.....	61,714.99
Surplus.....	111.00
	8,265.22
	150,846.30
	\$2,616,814.02

## INCOME ACCOUNT.

Dividend 6% paid May 2 & Nov. 2, 1899.....	\$104,400.00
Carried to surplus Dec. 31, 1899.....	24,330.07
Net income over & above expenses, fixed charges & interest, for year ended Dec. 31, 1899.....	\$128,730.07

J. Joseph asked if the \$150,846.30, which was placed as surplus in the report, was without any incumbrance whatever. President Forget replied that it was, & that this sum was the property of the shareholders to do with as they saw fit.

The following directors were elected:—Hon. L. J. Forget, W. Wainwright, R. Forget, F. Henshaw, W. Hanson, H. Mackenzie, J. K. Osborne, H. M. Pellatt, C. O. Paradis, E. B. Garneau, J. Lewis.

At a special meeting immediately following, the shareholders approved of the measures proposed for increasing the capital stock for the purpose of meeting the expenditure for the completion of the str. Toronto, enlargement of the Tadousac Hotel, construction of Murray Bay Hotel & other purposes, by the issue of \$348,000 of new stock, an increase of 1 share for every 5 of the existing stock, to be offered to shareholders on record Feb. 28, at par, & that they be given to Mar. 15 to sub-

scribe their allotment, & that any balance not so subscribed be disposed of as the directors may decide. In explanation, President Forget said that the Co. owed the bank \$155,000 in connection with the improvements which are now being made, & he considered it better business if this interest was paid the stockholders in the way of dividends. He also said that the str. Toronto had been an immense success, & with another like her the receipts should increase an additional \$100,000. No definite decision had been arrived at as to whether another steamer would be ordered in the immediate future. The price of iron & steel had increased so tremendously that they had not thought it advisable to ask for tenders, but they were getting estimates.

Thos. Henry, heretofore District Passenger & Freight Agent of the Northern Pacific, with headquarters at Montreal, has been appointed General Traffic Manager of the R. & O.N. Co., succeeding the late G. A. Brown. Mr. Henry, who is a native of Montreal, entered the employ of the Ottawa River Navigation Co. about 21 years ago, & later went into the G.T. passenger department in the Montreal ticket office, in St. James Street. For the past 15 years he has been with the Northern Pacific, holding for 10 years the position he has recently resigned. His brother, W. H. Henry, is Canadian Passenger Agent of the Delaware & Hudson Ry.

The directors recently offered a trip pass from Montreal to Chicoutimi & return to the person suggesting the most acceptable name for the new hotel at Murray Bay. O. Paradis, of Sorel, suggested "Manoir Richelieu," which was accepted.

## The Polson Iron Works, Toronto.

An illustration on page 51 shows the composite steel barge, Sir Leonard H. Tilley, which was seriously damaged by fire upon Lake Erie last fall, & purchased by Jas. Carruthers, of Toronto, from the insurance companies, since which she has been repaired at these works. The illustration shows her as she will appear when completed. A full

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BARLEY..... 36.69 "	BARLEY..... 24.80 "
FLAX..... 16.08 "	FLAX..... 12.30 "

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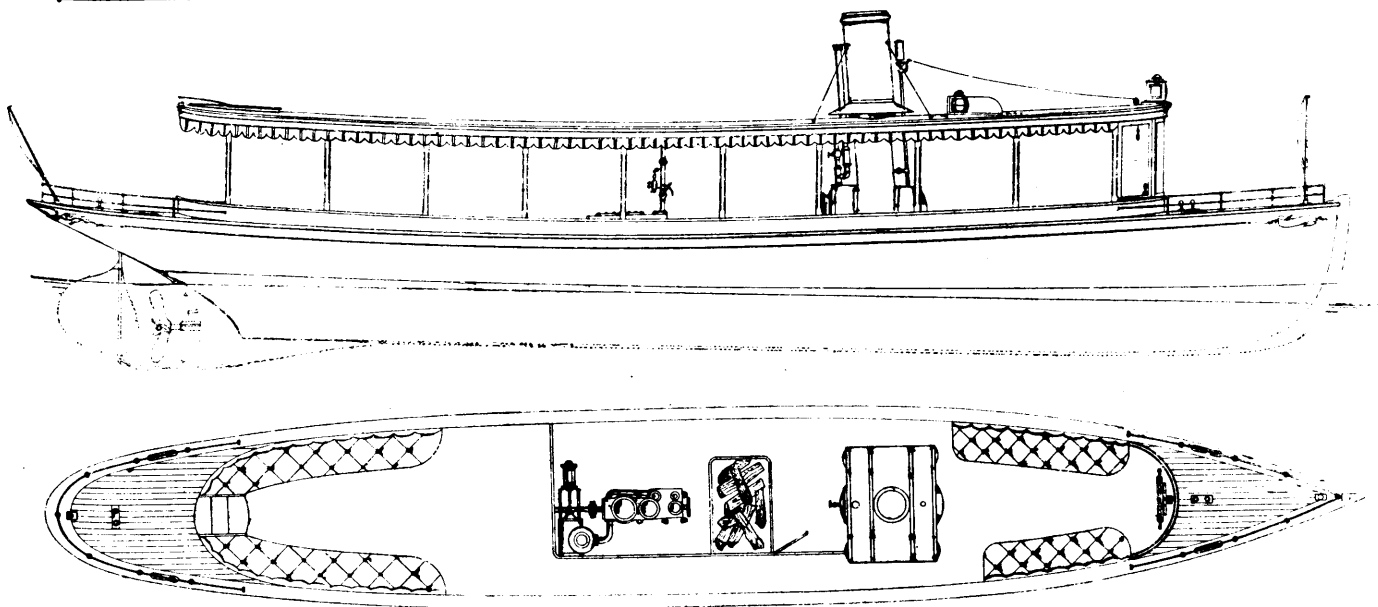
sell through tickets to the Old Country, cheaper than if passengers bought railway tickets to New York or Montreal, and then re-booked.

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COMPOSITE STEEL LAUNCH BEING BUILT AT THE POLSON IRON WORKS, TORONTO.

description of the work done on her was given in our Jan. issue, pg. 25.

The other illustrations on this page show an open composite steel launch with canopy being built at these works for the Rev. Elmore Harris, of Toronto. She is 53 ft. long, fitted with triple expansion engines,  $4\frac{3}{4}$  ft.,  $7\frac{1}{2}$  ft., 12 ft. by 7 ft., & Yarrow boiler, independent air pump & condenser, is framed with steel, planked with B.C. pine & highly finished & richly upholstered.

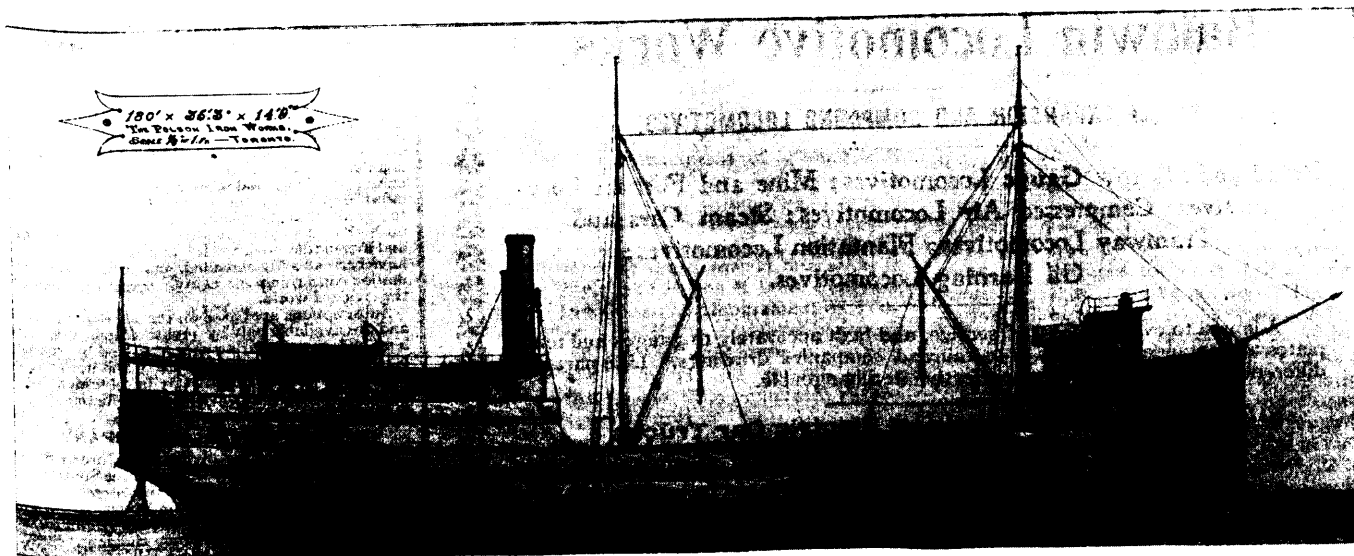
**The St. Lawrence Route.**

The Deputy Minister of Railways & Canals states that the 14 ft. waterway leading to Montreal from the West will undoubtedly be in operation this year. In a recent interview he said the work was practically completed. In answer to the statement that there is a 12 ft. shoal at low water at the foot of Wolfe Island, 75 yards in extent, he said that had nothing to do with the Department of Railways & Canals. Such a statement, however, does not dispose of the shoal, if it exists. Mr. Schrieber says there is 14 ft. navigation ready for the spring at the north channel, some distance above the western entrance to the

Galops canal, upon which dredges were recently working, & which is to replace the old channel which had only about 10 ft. of water. Mr. Schrieber says the Galops canal will be ready for 14 ft. navigation in the spring & that the shoals in the river just above Sparrow Hawk Point, which are said to have only 12 ft. of water, will be deepened. The Rapide Plat canal is all ready for navigation, except that some boulders will have to be picked up in the spring. Mr. Schrieber is very emphatic in stating that it will be possible for boats drawing 14 ft. of water to pass through the complete system to Montreal when navigation opens.

On the other hand, the transportation & grain trades directly interested in the route do not think that during the coming season there will be anything like a 14 ft. channel. The Montreal Witness, expressing their views, says: "On every section of the river, almost without exception, work will be needed next season to secure safe deep navigation. Below Prescott & at one point at least above Prescott, namely, at the foot of Wolfe Island, where at low water last year there was only 12 ft. of water, much heavy work will have to be done, & in Lake St. Francis the channel will have to be deepened at many places &

obstructions removed. Even in Lake St. Louis, between the Soulanges canal & the Lachine canal, it is extremely doubtful that it will be possible, or, if possible, safe, to attempt to use the larger vessels drawing 14 ft. of water. The owners & navigators of vessels on the river are of the opinion that even if 14 ft. of water is available in low water throughout the length of Lake St. Louis the channel is of such a character as to make it unsafe for such vessels. It appears that there has been a wide difference of opinion as to the necessary width of the channel. The river navigators hold that the channel, where there are such strong cross currents as exist in Lake St. Louis, should have been 600 ft. wide to make it perfectly easy & safe of navigation to large 14 ft. vessels in tows; to make it possible of navigation without considerable risk it should, at least, have been 400 ft. in width. By the new & cheap method of grain transportation, two of these large vessels are towed by a third which is supplied with steam power. Of course, where there are currents, the towing vessels are drawn to one side or other by the current. Every foot would be needed in a 400 ft. channel when these tows of vessels have to pass one another amidst cross currents. The government engineers were of the opinion



THE STEAMER SIR S. L. TILLEY, AS REBUILT AT THE POLSON IRON WORKS, TORONTO.

that 300 ft. was sufficient, & that is the width. Moreover, the work has been roughly done; the sides of the channels have, it is said, been left rough & ragged, & this contributes, it is said, an additional danger. It is confidently expected by navigators that if there is navigation of any consequence by 14 ft. vessels under these conditions there will be another series of accidents to be scored against the St. Lawrence route. It seems to be the opinion of navigators that the engineers are lacking in both knowledge & skill in regard to the work of improving our river navigation, & that they are not very greatly interested in it or strenuous in their efforts to secure real improvements. And they are not inclined to give much consideration to the views of those who have, at least, great knowledge & long experience as to navigation & its needs."

#### Maritime Provinces & Newfoundland.

G. Robertson, M.P.P., of St. John, N.B., has gone to England in the interests of the Imperial Dry Dock Co., which proposes to build a dry dock at St. John.

The Cape Island Steamship Co. is being formed with a capital of \$10,000, to do business on the south shore of Nova Scotia, with Clark's Harbor as the chief place of business.

The Richmond Steamship Co.'s steamer Vega, of the St. Peters-Mulgrave route, is in winter quarters at Sydney, N.S., for the usual overhauling. During last season the Vega steamed 16,000 miles, making 30 more trips than in 1898.

Residents of Southampton, Dumfries, Prince William & other up-river parishes propose building a boat that can run on the St. John river between Woodstock & Fredericton all summer. She will have a capacity of over 200 passengers & 40 tons of freight. A company is being formed with \$20,000 capital. The merchants of Fredericton will lend the company a helping hand, as it would be greatly to their interests to have continuous river service during the summer.

The new str. Glencoe, of the Newfoundland Ry. service, is now running weekly between St. John's, Nfld., & Halifax, N.S., connecting with the Plant Line service between Halifax & Boston. She is a sister ship of the str. Bruce, running between St. John's & Sydney.

She is 1200 tons gross & 800 net, with quadruple engines, & is lighted with electricity. There are berths for 42 persons, besides a ladies' cabin, which accommodates 8 more. The 2nd class quarters are fitted for 50 men & 25 women. She has a speed of 12½ knots.

#### Province of Quebec Shipping.

The contract for building a wharf at the I.C.R. station at Levis has been awarded to Contractor Lemieux of that place.

At the annual meeting of the Kingston & Montreal Forwarding Co. in Montreal, Feb. 1, the following were elected:—President, F. Ross; Vice-Pres., J. B. Carruthers; other directors, F. W. Ross, J. T. Ross, W. Stewart; Secretary, G. R. Moir.

The Montreal Harbor Commissioners are figuring on securing another dredge. The Engineer estimates that the cost will be, with the machinery as under construction on dredge no. 4, about \$46,000; with steel hull, about \$52,000, & with greater steam power, somewhat larger hull, & strengthened machinery, \$58,000.

At a recent meeting of the Chambre de Commerce in Montreal, A. J. Corriveau proposed a scheme for a new navigation route by way of the Richelieu River & Lake Champlain. His idea is to construct a canal from Longueuil to Ste. Therese Bay in the Chambly Canal, 18 miles, & to enlarge the Chambly Canal from there to St. John's, 4 miles. He thinks the U.S. should assist in view of the international character of the route, & is of the opinion that it would reduce the cost of coal 75c. a ton in Montreal.

At the annual meeting of the Ottawa River Navigation Co. in Montreal, Feb. 15, the following were elected:—President, I. J. Gibb; Vice-President, R. H. W. Shepherd; Managing Director, R. W. Shepherd; other directors, Messrs. E. W. Simpson, R. Boulton & H. Wallis. The report referred to the prosperous condition of the Co. & the satisfactory season closed. The str. Victoria, built in Toronto, & placed on the Ottawa River service, fully met all requirements. Her first season's business was above expectations.

A number of directors of the Great Northern Ry., of Canada, called upon the Quebec Harbor commissioners recently & asked that body to co-operate with them in doing everything

possible to increase the shipping facilities of Quebec. They requested that the harbor be put in the finest possible condition & that their own enterprises be systematically aided. In reply the commissioners, through their chairman, assured the deputation that they were prepared to go to any length that was advisable in the matter, & congratulated them on their enterprise & public spirit.

In introducing a bill to amend the Pilotage Act in the House of Commons recently, the Minister of Marine explained that it referred only to the pilots on the St. Lawrence between Montreal & Quebec, & was largely the result of the findings of the commission appointed after the strike of the pilots a couple of years ago. A number of points of difference were covered in by-laws which he had submitted to the Harbor Commissioners of Montreal, the pilotage authorities. These proposed by-laws provide that in any meeting held by the Commissioners to consider such matters as the buoying of the river, a representative of the pilots should be present to advise them; that the pilots should be subjected once in three years to a color-blindness test, & that the number of pilots should not be increased beyond 50. The present bill established a tribunal, with complete jurisdiction, to inquire into charges against pilots, taking that power out of the hands of the Harbor Commissioners. This tribunal consists of three persons, two of whom should possess nautical or pilotage experience, to be appointed by the Minister of Marine, one on his own nomination, who should be Chairman, one on the nomination of the Harbor Commissioners, & the third on the nomination of the pilots themselves.

Harbor Engineer Kennedy, of Montreal, has made the following report on the wharves, etc., which are to be built by the Dominion Department of Public Works below St. Mary's current. The pier & shore wharf are to be built forthwith with the \$500,000 voted by Parliament last session. The pier is to be placed midway between the existing piers at Hochelaga & parallel to them. It will be about 272 ft. wide x 1,000 long on the upstream side, & 840 on the downstream side, & will be surmounted by a temporary ice-resisting wall running lengthwise of the pier, & so placed as to leave a clear space of about 80 ft. wide between the wall & the upstream side of the pier, & another of 160 ft. wide between the wall & the downstream side. The space of 80

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ft. on the upstream side is at first to be a low level wharf 13 ft. high above low water, & is to have upon it a removable shed 35 x 750 ft., & 2 railway tracks, but the plan shows no roadway. The downstream side will be a high level wharf 24 ft. high above low water, & will have upon it a permanent freight shed 80 x 600 ft., two railway tracks, & a roadway 50 ft. wide. The outer end of the pier will also be low level & will have a short ice-resisting cross wall to protect the end of the permanent shed. After other contemplated piers are built below the pier to be now built, a permanent longitudinal ice wall will be substituted for the temporary one, & it will be placed along the upstream edge of the pier, instead of 80 ft. distant. All freight shipped or landed will have to be taken over the permanent wall, but it is proposed that this side of the pier be assigned to coal traffic, as coal can be easily taken over the wall by modern appliances.

The basins between the sides of the new pier & the existing piers east & west of it will be about 400 ft. wide. The head of the basin between the new pier & the existing pier above, or west of it, will be formed by a low level shore wharf, having upon it a system of earth embankments for carrying the railway tracks & roadway leading to the pier, & for protecting them from ice shoves. The other basin, or that between the new pier & the existing pier east of it, will also have a shore wharf, but of high level & affording a site for a grain elevator of 1,000,000 bush. capacity. The elevator is to be made to resist any ice shove which may reach the inner end of the basin, by having its walls built of stone or concrete to above ice & flood level & fitted with water-tight gates.

The piers & shore wharves are intended to be built with cribwork walls up to low water level, & with substantial concrete walls from that to the top of the wharf; all the space within the outside walls of both pier & shore wharf is to be fitted up with earth & stone dredgings. The basins between the piers & the approaches from the ship channel are to be dredged out to 30 ft. depth at low water. The extent of wharf front which will be afforded by the new pier & shore wharves will be about 3,070 lineal ft.

### Ontario & the Great Lakes.

The str. Queen City was put up for sale by auction in Toronto, Jan. 11, but as only \$2,000 were offered she was withdrawn.

The Calvin Co., Ltd., Garden Island, is building a schooner-rigged tow barge 200 ft. long, 40 ft. beam & 16 ft. deep.

Capt. A. W. Gillman, Superintendent of the Goderich Transportation Co., & one of the most widely-known men on the lakes, died very suddenly of apoplexy at Milwaukee Jan. 31.

The Minister of Marine states that a fog bell or other signal will be established at the light house at the eastern entrance of Toronto harbor, at the opening of navigation next spring.

The Rainy River Navigation Co., with headquarters at Rat Portage, has elected the following officers for the current year:—President & Manager, G. A. Graham; Vice-President, W. Ross; Sec.-Treas., C. C. Frisbee.

The Montreal Transportation Co. has presented Capt. J. Murray, of Kingston, with a \$250 gold watch & chain, for saving a tow of grain barges after the tug he commanded caught fire. He beached the tug at Alexandria Bay.

The U.S. Treasury Dept. has, under date of Jan. 27, issued amended rules & regulations governing the movement & anchorage of vessels & rafts in St. Mary's River, from Point Iroquois on Lake Superior to Point Detour on Lake Huron.

The Dry Dock & Steel Shipbuilding Co., of Collingwood, is said to have appointed as Manager a person who has had many years' experience in large shipyards in the U.S., & has for some years been employed in Capt. McDougall's shipyard at West Superior, Wis. His name is not given.

The Minister of Marine has promised a deputation from Rat Portage that light houses will be erected in the Lake of the Woods on Burton Island & Big Island, & it is probable a third one will be placed at the narrows between Birch & Oak Islands, & a bell buoy on the sunken rock at the south end of the lake.

Owen Sound will, it is stated, be the headquarters of a steamship line, which will compete with the Northern Navigation Co. for the Sault Ste. Marie & north shore business & Mackinaw excursion traffic. The str. City of Windsor, which has been on the route during the last two seasons, will be reinforced by two or three large steamers suitable for Mackinaw excursion business.

According to the Fort William Board of Trade report, 942 vessels entered that harbor during 1899, with a registered tonnage of 1,003,422 tons; 100,000 tons of merchandise, 235,000 tons of coal & 30,500 tons of iron were received, all showing increases over 1898. The shipments from Fort William harbor included 63,000 tons of flour & 14,715,330 bush. of wheat, 4,014,751 of which were carried in U.S. vessels.

Maitland, Rixon & Co., of Owen Sound, owners of the tug Thos. Maitland, have decided to build a barge to be used as a consort for her. The barge will be 130 ft. long, with 30 ft. beam. She will have a spoon bow, & her carrying capacity will be 10,000 ties. She will have a steel winch for loading and unloading. There will be no crew's quarters, as the Maitland's accommodation is ample. The barge will be built at Maitland, Rixon & Co.'s pier.

It is reported in Cleveland that an arrangement has been completed between the Lake Erie Transportation Co., which operates boats between Cleveland, Rondeau & Port Stanley, & the C.P.R., under which one & possibly two new steamers may be put on the line next summer, to make both day & night trips to Rondeau & Port Stanley. Connection with the C.P.R. would be made at London by way of the Lake Erie & Detroit River Ry. for the east & west.

At the annual meeting of the Northern Navigation Co. in Collingwood, Jan. 30, the old officers were re-elected as follows:—President, J. Scott; Vice-President, J. J. Long; Secretary, T. Long; Treasurer, J. E. Stephens; Managing Committee, J. J. Long, C. E. Stephens, C. Cameron, M. Burton. The directors have appointed W. Askin, heretofore General Agent of the Northwest Transportation Co. at Toronto, as Manager, to succeed A. Miscampbell. G. D. Ellis, of Barrie, has been appointed Travelling Agent.

The Ontario Department of Fisheries is said to be contemplating increasing the license payable by each fishing tug in use in provincial waters from \$25 to \$50. There are about 80 tugs that would be affected by the increase, & most of these are in operation in Georgian Bay, Lake Huron & Lake Superior. Originally the Dominion Department of Fisheries exacted a fee of \$50 in respect of fishing tugs, but the amount was reduced to \$25. Now that the Province has jurisdiction in such matters it is said it contemplates reverting to the higher figure.

In another item reference is made to the large lake freighters being built for the American S.S. Co. The record for the greatest ore cargo is now held by the Minnesota Steamship Co.'s barge Manila, which during last season took a cargo of 8,376 net tons from Two Harbors, Mich., to South Chicago,

Ill. The same Co.'s str. Malletoa carried between the same ports a cargo of 8,215 net tons, & the Rockefeller tow barge John Smeaton has a record of 8,339 net tons. It is expected that the new steamers will surpass these records during 1900.

The Canada Atlantic Transit Co.'s fleet for the coming season will be made up of the following vessels: Arthur Orr, 4,800 tons; G. N. Orr, 4,200 tons; W. H. Gratwick, 4,200 tons; Kearsarge, 4,500 tons; new boat now building, not yet named, 3,300 tons. Total gross tonnage of new fleet, 21,000 tons, as against 17,000 tons for 1899, or an excess of 4,000 tons a trip, or about 100,000 tons east-bound for the season. The steamer now being built in Toronto will be 257 ft. over all; beam moulded 43 ft.; depth moulded 25½ ft. Estimated capacity, 3,000 gross tons; engines, triple, 17.28, 46x32; 1 Scotch boiler, estimated horse power, 750.

Lieut.-Col. Lydecker, of the Corps of Engineers, U.S.A., has made a report relative to the vessel blockade during the past season in the St. Mary's River & the St. Clair Flats Canal. Navigation was twice blocked in the St. Mary's River, the total period during which general navigation was suspended being 8½ days. The first blockade was that of the Sailors' Encampment channel, Sept. 5 to 10, & in the second the upper entrance to Hay Lake channel was obstructed from Nov. 28 to Dec. 1. In the Sailors' Encampment blockade 332 vessels were delayed, & in the Hay Lake channel blockade 167 were delayed. The money loss to vessel interests by reason of these delays is estimated at \$227,373 for the Sailors' Encampment & \$142,745 for the Hay Lake channel. The St. Clair Flats Canal was blocked by a tow barge for about 1½ days, Dec. 4 to 6, the resultant money loss being about \$10,000. Col. Lydecker points out that the total money loss to vessel interests is not limited to the items of delay, but includes other incidental expenses, such as the cost of removing or repairing the wrecked or stranded vessels, & damages sustained to other vessels in endeavoring to pass outside the blockaded vessels. He therefore says the total loss to vessel interests owing to these three blockades may be conservatively estimated at \$675,000.

It is likely that strong attempts will be made at the present Congress of the U.S. to have several additions made to the force of revenue steamers for duty on the Great Lakes. Under the terms of the treaty with Great Britain but a single warship can be maintained on the lakes by the U.S., but the Marine Record believes that the construction of revenue vessels will not be held to be a contravention of the treaty. Plans for the new revenue cutter authorized last year for service on the lakes have been accepted; she will be of the finest type of craft on fresh water, if not afloat, & will cost \$165,000. The length over all is to be 178 ft.; moulded beam, 30 ft.; depth, 15 ft. amidships. The keel is of the flat type, made of plates 14 lbs. to the sq. ft., double thickness and riveted together. Above the main deck the steel will average 10 lbs. to the sq. ft., & the double plates & extra heavy steel construction of frame will make the cutter a formidable little craft if necessary for any active service. The main engine will be vertical, triple expansion, direct acting, with cylinders 17, 27 & 43 in. in diam., and a 24 in. stroke. There will be 2 single-ended boilers capable of carrying a working pressure of 160 lbs. All of the mechanism is to be of the latest design, & so arranged as to give the maximum power with the minimum space utilization. The pilot & chart houses, located directly abaft the foremast, are to be made of steel, & the steering gear will be worked by steam power from both the pilot house & the bridge, with hand gear & other connections in case of accident.

The first 500 ft. freighter for service on the great lakes was launched at Lorain, Ohio, in Jan. She is the first of 4 big carriers building for the American Steamship Co., which will each carry about 9,000 net tons per trip. She is a steel bulk freight steamer & is within a few inches of 500 ft. over all. The length on keel is 478 ft., beam moulded 52 ft. & depth 30 ft. Steel is used for masts, deck houses, & in fact in almost every part of the vessel, wood being dispensed with whenever possible. She has 13 water-tight compartments & has a capacity for 3,500 tons of water ballast. There are five longitudinal girders on each side of the center line of the hull. The between-deck beams are spaced 8 ft. apart throughout the length of the cargo holds, & consist of 15-in. heavy channels attached to 15-in. channel bent frames, similarly spaced, & these in connection with spar deck beams & channel floors make a succession of continuous heavy members 8 ft. apart throughout the length of the ship. These in turn are strongly connected & braced longitudinally by stringers & girders, making the ship exceptionally strong. There are 15 cargo hatches, 30 x 8 ft. in the clear, spaced 24 ft. centers. The cargo holds are divided into 6 compartments by water-tight bulkheads & steel doors. The vessel will be fitted with a quadruple expansion engine, with cylinders of 16½, 25½, 38½ & 60 ins. in diameter & 40 ins. stroke. These engines will drive a wheel 14 ft. in diameter and 15½ ft. pitch. Steam will be supplied from water-tube boilers having 140 sq. ft. of grate surface, 6,800 sq. ft. of heating surface & working at 250 pounds pressure. The coal bunkers will have a capacity of 300 tons. The auxiliaries include steam steering gear, steam capstan windlass, winding machines for handling wire mooring lines & a complete electric light plant, operated by compound engines. She will have three steel pole masts, with pilot house & texas adjoining the fore-castle, & a raised quarterdeck over machinery & boiler space. The chart house & pilot house, as well as captain's quarters, one stateroom & rooms for mates, wheelmen, watchmen, firemen, deckhands, etc., will all be in the upper forward part of the vessel. Two deckhouses amidships will be devoted entirely to passengers. Quarters for engineers, oilers, steward as well as engineers' storerooms, kitchen, crew's mess rooms, dining room, etc., will be situated below the quarterdeck aft.—Marine Review.

#### British Columbia Shipping.

The C.P.R. Co. has decided to build a steamboat for service on Okanagon Lake, between Okanagon Landing & Penticton, to take the place of the str. Aberdeen, which has been on the run for some years. The dimensions of the new boat will be, length 160 ft., beam 26 ft., depth 7 ft. Her motive power will be taken from one of the steamers which was built in 1898 for the Stikine River service.

The Canadian government has adopted for use at Vancouver, B.C., an improvement in fog-signalling & light-house apparatus, which is a combination of the principle of the electrically vibrated phonographic diaphragm, with two large megaphones, from which signals are sounded alternately. In connection with the siren signals a light flashes every forty seconds, the siren signals being sounded for the remaining twenty seconds of the minute. The mechanism is regulated by clockwork.

The C.P.R. Co. has decided to build another tug boat to be used on Kootenay Lake for towing car barges between Kootenay Landing & Nelson. She will be built at Nelson out of coast lumber. Following are the general dimensions:—Length 102 ft., breadth of beam 20 ft., depth 9½ ft. The boiler will be 11 ft. in diameter by 12 ft. long, with 2 corrugated furnaces. The engines will be compound jet condensing, cylinders 14 & 30 ins. x 20 ins. stroke, both boiler & engine will be built by the Polson Iron Works, Toronto.

The Victoria Board of Trade has had a conference with representatives of Dodwell & Co., of Tacoma, Wash., in reference to the steamship service between Victoria & Puget Sound, which was said to have been very unsatisfactory since the loss of the str. Kingston. The Board complained of inconvenience in securing berths, the total unfitness of the str. Utopia, & the fear of unseaworthiness of the str. Victorian. Mr. Dodwell stated his Co. had spent three months looking for a steamer to replace the Kingston, & purchased the Victorian, which was more seaworthy than the Kingston ever was, & had spent \$60,000 in improvements on her since her purchase. He said the steamer was losing \$4,000 a month, & that the Co. was also losing on the 75c. meals which were complained of. He promised some concessions in regard to facilities for securing berths, & in giving information as to the departure of the steamer from Victoria.

Vancouver people are interested in the results of an interview which took place recently between C. E. Tisdall, M.P.P. for that city, & J. Dunsmuir. Mr. Tisdall drew Mr. Dunsmuir's attention to the very poor steamboat connection between Vancouver & Union wharf. The only way to ship from Vancouver to Union is to send first from Vancouver to Nanaimo, & then from Nanaimo to Union wharf. The Union wharf being a private one, the Esquimalt & Nanaimo Ry. will not allow outside steamers to land goods there. That means double wharfage & poor service for Vancouver shippers. Mr. Tisdall asked Mr. Dunsmuir whether some arrangement could not be made in future whereby Vancouver steamers might be allowed to call at Union wharf. Mr. Dunsmuir assured him that on or about April 1 the E. & N. Ry. would put on a direct service from Vancouver to Union wharf. The str. City of Nanaimo will make a trip certainly once, & possibly twice a week, & will run between Vancouver & Union wharf & Nanaimo & Union wharf.

It looks as though there is to be spirited competition for the Japan-China trade. President Hill, of the Great Northern Ry., is credited as saying in a recent interview, "I propose to build as many vessels as the trade with the Orient will justify, & that will be a great many. The natural market for the Pacific coast is China, Japan & the Philippines. The docks at Seattle are large enough to accommodate all of the shipping for some time, but eventually the conditions will warrant more extensive harbor accommodations. It is too far from the Pacific Coast to the Eastern States to ship many of the northwestern products to the east. A market for grain in the Orient will give the farmers a price higher than they can get in the east. The products of the iron & coal mines & lumber regions in the northwest can be sold to better advantage in the markets of the Orient than they can bring in the east. It is not like forcing something upon the market that people don't want. They want everything we can take to them & we want their products. We shall have 25 steamships in the service within the next five years. The vessels will be of the largest size, with enormous carrying capacity & comparatively slow speed. Speed is not so much of an object as to be able to lay the goods on the other side of the Pacific so that they may compete with native products."

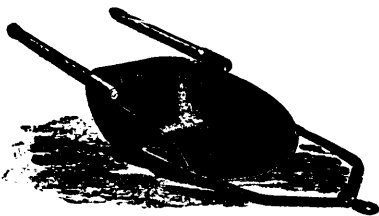
#### Yukon & Northern Navigation Matters.

Capt. E. J. Smyth, of Dawson, Yukon, is said to have arranged with a Victoria, B.C., ship building firm to build a 1st class stern wheel steamer 110 ft. long, with 30 ft. beam, for service on the Klondike River between Dawson & the heart of the great placers. It is proposed to build the steamer in Victoria, take it north in sections, & put it together where the Klondike discharges into the Yukon.

It is said the stern-wheel steamers Dawson, McConnell & Ogilvie, built by the C.P.R. during the first rush to the Yukon, & some of which the Co. operated for part of a season on the Stikine river, have been purchased by a syndicate in which Victorian B.C. people are interested, & will be taken around to the Yukon river, to run between Dawson & the terminus of the White Pass & Yukon Ry., which next summer will be below White Horse rapids. The Dawson has been lying in False Creek, Vancouver, since the failure of the Stikine river route, & the McConnell & Ogilvie are at Wrangle.

The following steamship sailings are announced:—Canadian Pacific Navigation Co.'s str. Tees leaving Victoria Feb. 21, Mar. 7 & 21, & Vancouver on the following days, for Wrangle, Skagway & Dyea. The same Co.'s str. Danube leaving Victoria Feb. 15, Mar. 1, 14 & 28, & Vancouver on the following days, for Wrangle, Skagway & Dyea. The Pacific Coast Steamship Co.'s str. Cottage City leaving Victoria Feb. 24, Mar. 11 & 26 for Wrangle, Juneau, Skagway, Dyea, Killisnoo &

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Sitka. The Alaska Steamship Co.'s str. Rosalie for Wrangel, Juneau, Skagway & Dyea will call at Vancouver & Victoria, if sufficient business offers, on Feb. 22, Mar. 8 & 22, April 5 & 19.

E. J. Coyle, Assistant General Passenger Agent of the C.P.R. at Vancouver, when in Montreal recently, is reported to have said that the efforts made by a strong syndicate, capitalized by English investment, to establish a fast passenger & freight line of steamships for the Yukon trade, plying between Vancouver & Skagway, are attracting much attention in B.C. The steamship service from Vancouver, with Yukon connections, have been altogether inadequate in the past. The syndicate has, it is said, accomplished something definite in its purpose, & the project will become an actuality very shortly. The syndicate will place on the route two Clyde built steamers, on which an option has been secured, early in May, in time to catch the early traffic for the gold fields. Montreal capital is also behind the venture.

**Red River Navigation.**—The Dominion Government having decided to improve the navigation of the Red River, at St. Andrews rapids, between Winnipeg & Selkirk, recently invited tenders for the construction of a concrete dam 800 ft. long across the river, & a set of concrete locks 215 ft. in length, & dredging the river for some 400 ft. The lift of the locks will be about 18 ft. An appropriation of \$150,000 is already available. The total estimated cost of the work is between \$700,000 & \$800,000. The St. Andrews rapids are the only serious obstruction to navigation between the International Boundary & Lake Winnipeg.

**ELECTRIC RAILWAYS.**

**Maritime Provinces & Newfoundland.**

**Halifax Electric Tramway.**—At the annual meeting, Feb. 12, the report was presented as follows, showing a net profit of \$61,798.67, as compared with \$54,748.54 for the previous year. From the year's profits there have been paid 4 quarterly dividends of 1 1/4% each, amounting in all to \$40,000, leaving a surplus of \$21,798.67. The roadbed, rolling stock, power station, equipment & other property have been maintained in a high state of efficiency, & the cost thereof, as in previous years, has been charged to operating expenses. The business continues to increase satisfactorily, & the percentage of operating expenses is lower than in any previous year, showing a decrease of 3.91% as compared with last year. The cost of extending the lighting lines, to open up new districts, has been charged direct to operating expenses, with few exceptions. Although the track mileage has not been increased during the year, the car mileage has increased 20,334 car miles, & 2,616,231 passengers have been carried, an increase of 196,963 passengers over the previous year, due to a great extent to the reduction of fares adopted at the commencement of the year. The weather, on which the earnings so largely depend, was not on the whole favorable. The popularity of the lighting system shows a steady increase, the equivalent of 3,042-16 candle-power lamps having been installed during the year, making a total instalment of 17,267 incandescent lamps throughout the city. The boiler house & coal sheds have been enlarged, & one 250 h.p. boiler installed. Mechanical stokers have been placed under one boiler, & the power station equipment has been increased by a constant-current series alternating arc lamp transformer of 100 lamps capacity. Line transformers of 50,000 watts capacity, & 110 meters have been installed, all of which has entailed an expenditure of \$16,277.66, charged to construction account.

**STATISTICAL STATEMENT.**

	1899	1898	1897
Gross receipts—railway, light & power.....	\$203,935.86	\$197,830.46	\$193,379.68
Increase 1899 over 1898 3.08% .....	6,105.40	.....	.....
Operating expenses .....	112,137.19	113,081.92	112,570.91
Decrease 1899 below 1898, 0.83% .....	944.73	.....	.....
Operating expenses — Per ct. of total earnings .....	55.15	59.06	57.11
Net earnings .....	91,798.67	84,748.54	80,808.77
Increase 1899 over 1898, 8.32% .....	7,050.13	.....	.....
Passengers carried .....	2,616,231	24,192.68	23,349.00
Increase 1899 over 1898, 8.13% .....	196,963	.....	.....
Average receipts per passenger (reduced rates in 1899) .....	4.59	4.93	4.99
Car mileage .....	613,942	593,606	575,017
Increase 1899 over 1898, 3.32% .....	20,332	.....	.....

**FINANCIAL STATEMENT FOR YEAR ENDING DECEMBER 31ST, 1899.**

**ASSETS.**

Property .....	\$1,385,145.87
Construction account .....	67,025.55
Accounts receivable .....	18,961.03
Supplies on hand .....	6,712.35
Suspense accounts .....	6,473.46
Deposit with City .....	500.00
Cash on hand .....	41,406.93
	<b>\$1,526,225.21</b>

**LIABILITIES.**

Capital stock .....	\$ 800,000.00
Five per cent. bonds .....	600,000.00
Accounts payable .....	27,725.34
Securities for lighting accounts .....	71.98
Tickets outstanding .....	881.33
Bond interest .....	15,000.00
Quarterly dividend due Jan. 1, 1900 .....	10,000.00
Surplus Dec. 31, 1899 .....	72,546.56
	<b>\$1,526,225.21</b>

**INCOME ACCOUNT.**

Passenger receipts .....	\$119,963.92
Light and power earnings .....	82,627.48
Sundry railway earnings .....	733.32
Sundry receipts .....	611.14
	<b>\$203,935.86</b>
Operating expenses .....	\$112,137.19
Coupons .....	30,000.00
Four dividends .....	40,000.00
Surplus .....	21,798.67
	<b>\$203,935.86</b>

The railway receipts for Jan., lighting receipts not included, were \$11,474.26, against \$8,613.11 in Jan., 1899.

The Moncton, N.B., Street Ry. not having been operated for some time, the town council is considering the question of taking steps to compel the Co. to take up the rails and place the streets in a proper condition.

**Quebec Electric Railways.**

**Montreal St. Ry.**—The gross earnings are:

	1899-1900.	1898-1899.	Increase.
Oct. ....	\$145,877.20	\$133,619.63	\$12,257.57
Nov. ....	133,489.12	125,125.09	8,364.03
Dec. ....	137,681.19	127,768.38	9,912.81
Jan. ....	136,086.33	125,276.04	10,810.29
	<b>\$553,133.84</b>	<b>\$511,789.14</b>	<b>\$41,344.70</b>

The latest story to gain currency respecting the very good understanding which is known to exist between the Royal Electric Co. the Chambly Water & Power Co. & the Montreal St. Ry. Co., is that the latter corporation will buy a good sized lump of the Water & Power Co.'s stock. It is also said that the Royal Electric will purchase a large interest in the same corporation. It is well known that the Montreal St. Ry. will take a good share—if not all—its power from the works at Chambly, & it is generally believed that between the railway & the Royal Electric, the two consumers of electricity will be able to use up about all the power that the Chambly Co. can furnish. The officials of the different companies, while not denying that there are plans on foot, refuse to say anything.

The dispute between the Co. & the City Council in regard to the removal of snow from the streets has been compromised. The Co. offered to pay half the cost of removal of snow from the streets where there are car tracks, while the city held that the Co. should pay two-thirds of the cost; & that this had been the agreement in the past. The old contract having expired, however, the Co. wanted a new agreement entered on the half-cost basis. The arrangement arrived at with the Co. to-day was that it should for this winter deposit two-thirds of the cost of the probable amount the snow removal would cost, & that both parties should go to law to see whether or not the City had the right, according to its agreement with the Co., to charge more than half cost for the removal of the snow. In the event of the city winning in the courts the Co. will this winter have to pay on the two-thirds basis, as guaranteed, but in case of the City losing, the difference between two-thirds as deposited, & half the cost will have to be returned to the Co. The arrangement as it now stands is that the Co. puts up during the legal fight \$45,000 guarantee for snow removal this year, while the City puts up a guarantee of \$30,000. (Dec '99, pg. 371.)

Superintendent D. M. McDonald, of the M. S. Ry. has invented a device to prevent the too sudden starting of electric cars. On the top of the controller is a series of 8 stops placed at stated intervals & in a circle. Attached to the handle is a spring arrangement which connects with these stops. The handle runs around freely until the first stop is encountered. Then in order to put on more power a pressure on the handle is necessary. A pressure on the handle top allows the power to be applied to the next stop, & so on until the entire circle has been negotiated. In order to go from a stand-still to full power ahead a lapse of from 8 to 10 seconds is necessary. By the old method one sweep of the handle would do it all, & there was the attendant jump which was so likely to cause a passenger to fall prostrate. Of course there is nothing to interfere with the rapid turning off of the power: this can be done with one sweep of the handle, as formerly. Mr. McDonald explained that no matter how carefully a motor man was trained, there were times when he would send on the power more quickly than he should. Perhaps it might be his anxiety to make up lost time and get up with his schedule or a dozen other complications; the result was the same. Another thing in favour of the invention is the proper application of electrical power. In order to get the full benefit of the power applied, & this is true not only in street cars, but in all machinery operated by electricity, the application of the power must be steady and gradual. Another improvement is an automatic lock by which it will be no longer necessary for the motorman to take the handle with him on leaving the car in order that the accidental application of the power can be avoided.

**Mount Royal Park Incline Ry., Montreal.**—This Co. has appointed a committee to report on the desirability of converting the power plant from steam to electricity. Last year 325,000 passengers were carried.

The Quebec Ry. Light & Power Co. gives notice of application to the Dominion Parliament for authority to pledge or otherwise dispose of its unsubscribed stock, or to issue it as paid up stock, & generally to deal with such stock as the directors, with the authority of the shareholders, may deem expedient.

**Ontario Electric Railways.**

**Belleville St. Ry.**—Notice is given that under authority contained in securities held by the vendor, there will be offered for sale by auction at Belleville, on March 1, the electric railway now being operated from Belleville



station to the Bay of Quinte, & other property of the Co., including power house, machine shops, power, cars, rails, wires, motors, & equipment of every kind, & the franchise enjoyed by the Co. The vendor is understood to be the Bank of Montreal, which holds a mortgage on the property.

**The Berlin & Waterloo St. Ry.** is installing 16 storage batteries to supplement the power furnished by the generators & to overcome the difficulties frequently experienced by heavy loads.

**Brockville to Ottawa.**—The Brockville Board of Trade has been considering the question of a proposed electric railway between that city & Ottawa.

**Galt, Preston, & Hespeler St. Ry.**—The report for 1899, presented at the annual meeting, Feb. 1, showed receipts for the year of \$24,166.96, & expenditures of \$24,175.78. The principal receipts were—Passenger earnings, \$13,275.32; freight earnings, \$6,041.92; stockholders on account of 6th call, \$620; supplies sold, \$1,366.76. The principal expenditures were—Repairs, \$278.79; insurance, \$1,025.25; interest, \$4,789.55; supplies, \$3,140.83; coal, \$3,210.89; wages, \$9,308.65. The assets & liabilities are as follows:—

ASSETS.	
Plant	\$121,725 19
Office furniture	111 35
Stationery, etc.	250 00
Supplies on hand	7,023 55
Unexpired insurance	409 27
Accounts debtors	428 61
Coal oil and waste	322 72
C.P.R.	66 18
Outstanding freight	5 75
Cash	445 01
	<hr/>
	\$130,787 63
LIABILITIES.	
Shareholders	\$ 28,532 50
Bonds	100,000 00
Outstanding accounts	949 76
Interest accruing due	956 62
Balance	348 75
	<hr/>
	\$130,787 63

The no. of passengers carried during 1899 was 232,361, & of freight 15,515 tons. General Superintendent Leonard, of the C.P.R., who is one of the directors, stated that a company had offered to buy the C.P.R.'s share in the line at a certain figure, & he had consented to sell, provided the company would agree to take over all the stock of any other shareholder at the same price. The meeting adjourned for a month to consider the proposal. A resolution was passed authorizing the directors to enter into an agreement with the C.P.R., that for all time to come passengers, freight, & express destined to points reached by C.P.R. lines be transferred from the G.P.,

& H. St. Ry. at Galt to the C.P.R. It is said that the prospective purchasers are the Cataract Power Co., of Hamilton, who recently consolidated several of the electric lines centreing in that city.

**The Guelph St. Ry. Co.** carried 25,000 more passengers in 1899 than in 1898.

**The Hamilton Consolidated Lines.**—The Hamilton Electric Light & Cataract Power Co. now owns & operates the Cataract Power Co., Hamilton Electric Light & Power Co., Hamilton Street Ry., Electrical Power & Manufacturing Co., Hamilton Radial Electric Ry., & Hamilton & Dundas St. Ry. While the various companies are consolidated as far as management is concerned, they are run under their own names, owing to the various charters & franchises they have differing considerably. Hon. J. M. Gibson is President of the Cataract Power Co. & Hamilton St. Ry. Co. J. Dickenson is President of the Hamilton & Dundas St. Ry. & of the Hamilton Electric Light & Power Co. J. Patterson is President of the Hamilton Radial Electric Ry., & Secretary for the other Companies. J. Moodie is Treasurer of all the Companies. C. K. Green is Traction Manager of the three electric railways, & J. B. Griffith is Purchasing Agent. M. B. Thomas, who was Manager of the Hamilton & Dundas St. Ry., has been appointed to a position in connection with the electric railway system above mentioned. The offices of the 3 electric railways have been consolidated at the Hamilton Radial Electric Ry.'s former headquarters, corner James & Gore streets.

It is said that the Hamilton Radial Electric Ry. is likely to be extended to Oakville at an early date.

J. Patterson says that the project of building an electric railway from Hamilton to Galt & Guelph may be dropped, owing to the apparent disinclination of the city of Hamilton to encourage it.

The Hamilton Radial Electric Ry. Co. gives notice of application to the Ontario Legislature for an act to extend the time for completing the Co.'s lines, & for other purposes.

**Hamilton, Grimsby & Beausville Electric Ry.**—The report presented at the annual meeting Jan. 22 was very satisfactory. The receipts for 1899 were \$44,670.75, the principal items of earnings being—Passengers, \$34,035.36; freight, \$6,898.83; express, \$2,160.43; milk, \$986.42; mails, \$438. The disbursements were \$27,729.87, leaving a balance of \$16,940.88, out of which were paid 4 quarterly dividends of 1¼%, amounting to \$5,665 & \$6,402.24 for interest, leaving a net balance of \$4,873.64, which added to \$2,950.11 brought forward from 1898, makes \$7,823.75 to the Co.'s credit. The total assets are

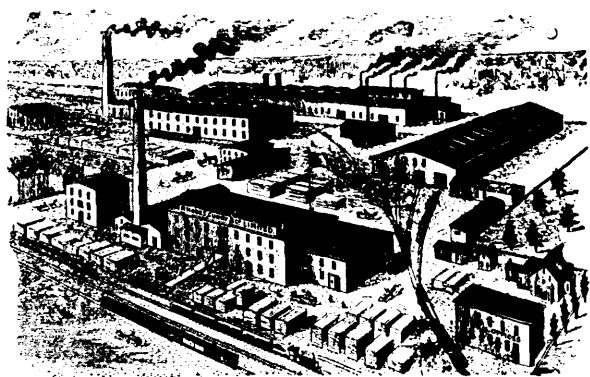
\$277,474.38, of which \$270,707.74 represents construction. The liabilities to the public, including \$85,000 of bonds are \$128,702.21 & to the shareholders \$113,300, leaving a credit to profit & loss of \$35,472.17, for which amount paid-up stock has been issued to the shareholders pro rata, being one-third of the total amount of capital stock. The following were elected: President, C. J. Myles; Vice-President, W. J. Harris; Treasurer, R. S. Martin; other directors, L. Bauer, A. H. Myles, R. Ramsay, R. S. Morris; Manager & Secretary, A. J. Nelles.

The Co. is having some extra passenger cars built.

**The Ingersoll Radial Electric Ry. Co.** gives notice of application to the Ontario Legislature to revive & amend its act of incorporation passed in 1897, by extending the time for the construction of the work, & by empowering the Co. to construct & operate a line from Ingersoll to Woodstock, & from Mount Elgin to Verschoyle, also to increase the capital stock to \$700,000, \$100,000 to be applied towards the construction of the line from Ingersoll to Woodstock, & \$50,000 from Mount Elgin to Verschoyle.

**London St. Ry.**—At the adjourned annual meeting Jan. 25 the report showed a falling off in gross revenue as compared with previous year of \$53,864.19, due to the strike. The working expenses exceeded the receipts by \$6,928.54. The report says: "Your directors beg to submit statement of the past year's business, showing gross revenue of \$59,947.58, as against \$113,811.75 for the previous year. Operating expenses were \$66,872.10, against \$65,665.23, an increase of 1.8%. By reference to the quarterly earnings statement attached you will note that the revenue increased during the first quarter of the year (when no strike was on) 10.2%." After giving a sketch of what happened during the strike, the report states that very little patronage was received till the rainy season set in late in the fall, & goes on to say: "Your directors very much regret & deplore this unfortunate strike, but feel that as the franchise rights of the Co. were attacked there was no other course open to pursue but to fight it out. The earnings of the Co. have long since resumed a normal condition, & are showing satisfactory increases over a year ago." The old directors were re-elected, viz: H. A. Everett, President; T. H. Smallman, Vice-President, and Messrs. Moore, Wasson, Spencer and Broderick as the other directors. C. E. A. Carr was re-elected General Manager & Sec.-Treas. It was decided to double-track Richmond street from the C.P.R. crossing to Oxford street.

On Jan. 31 Judge Elliott passed sentence on



# Rhodes, Curry & Co., Ltd.,

## Railway and Street Cars

of all descriptions.

Special Cars for Coal, Ore,  
Lumber, &c., with Ball-  
Bearing Wheels.

Car Wheels, Castings, Forgings, &c.  
AMHERST, NOVA SCOTIA.

### To Los Angeles and Southern California.

Every Friday night, at 10.35 p.m., a through Tourist Car for Los Angeles and Southern California leaves the Chicago, Milwaukee & St. Paul Railway Union Passenger Station, Chicago, via Omaha, Colorado Springs and Salt Lake City, for all points in Colorado, Utah, Nevada and California.

In addition to the regular Pullman porter, each car is accompanied by an intelligent, competent and courteous "courier," who will attend to the wants of passengers en route. This is an entirely new feature of tourist car service and will be appreciated by families or by ladies travelling alone. Particular attention is paid to the care of children, who usually get weary on a long journey.

These tourist cars are sleeping cars supplied with all the accessories necessary to make the journey comfortable and pleasant, and the berth rate (each berth will accommodate two persons) is only \$6.00 from Chicago to California. Ask the nearest ticket agent for a tourist car folder, or address A. J. Taylor, Canadian Freight and Passenger Agent, 8 King Street East, Toronto, Ont.

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.....For Sale.

six prisoners convicted of offences in connection with the street railway troubles. R. Howard, convicted of setting fire to a street car at Pottersburg, was sentenced to two years in Kingston Penitentiary. J. Barrett, throwing stones, was sentenced to nine months in the Central Prison. F. Goodacre, for rioting & turning the switch at Lyle street, was fined \$50 & sentenced to two months in jail from Dec. 16 last. In default of payment of the fine, two months will be added. W. H. Tarling, W. Jeffries & W. Hayes were each condemned to pay \$25 or two months in jail. A. E. McNamara had his sentence reduced. On payment of a fine of \$15 he will be released, having been in jail since Jan. 22.

At Osgoode Hall, Toronto, Jan. 17, Judges Osler, MacLennan, Moss & Lister gave judgment on the appeal by this Co. from the judgment of a Board of County Court Judges, one judge dissenting, confirming assessment by the city of London of the poles, rails, wires, etc., of the Co. It was contended that the assessment was based on the value of the articles to the railway as a running concern, & not on the basis laid down in re Bell Telephone Co. & City of Hamilton, 25, A.R., 351. Held, that the amount fixed by dissenting judge below for poles, etc., & bridges is right, & that nothing should be allowed for track allowances. Appeal allowed with costs.

**Metropolitan Ry.**—In addition to the application mentioned in our last issue, pg. 27, this Co. is applying to the Ontario Legislature for power to connect its tracks at its southern terminus, & at any other points at or near to its line with the tracks of the C.P.R., the G.T.R., the Schomberg & Aurora Ry., & the Oshawa Ry., to make traffic & running arrangements with any of these companies to operate its entire railway by electricity; to extend its rail-tire railway by electricity; to extend its rail-tire railway to Shelburne, & through or near Stouffville, thence through the Township of Pickering to or near Claremont, thence through the Townships of Pickering, Whitby & East Whitby to Oshawa; to extend the time for the construction of the Co.'s railway, & also enabling the Co. to exercise within Toronto the powers, &c., contained in the Railway Act clauses & amendments incorporated with the Co.'s acts.

In the case of the City of Toronto vs. this Co., Judge Falconbridge gave judgment in Toronto, Jan. 12, on motion to continue injunction restraining defendant from taking any steps towards effecting a junction of its line with the C.P.R. at North Toronto, & secondly, to restrain defendant from using electricity or propelling its cars therewith within the limits of the City of Toronto. The motion was by consent turned into a motion for judgment. By an order the Railway Committee of the Privy Council, after reciting the consent of the City of Toronto, approved of defendant connecting its tracks with those of the C.P.R., by means of a switch, in the City of Toronto, as shown on a plan, & subject to certain conditions. Held, after an exhaustive review of the statutes & agreements affecting the matter, that the real crux of the case is whether the defendant has the right without the authority or consent of the plaintiff to occupy, expropriate or otherwise to force its way over the land of the plaintiff so as to enter the land of the C.P.R. & make a junction, & not a mere crossing as to which place of crossing merely, the Privy Council, it is clear, has power to approve. The representatives of the city protesting against the proposed connection, & against the jurisdiction of the Privy Council, made the best terms they could as to the mode of union, but did not thereby assume to give a conveyance of the right of way from the present track of the defendant at its terminus over the plaintiff's land to the C.P.R. track. The defendant as a mere street railway has no rights of expropriation, nor has it any such rights under the statutes affecting it & the agreements made by & with it.

Such rights do not exist by virtue of the application of any clauses of the railway act, nor by virtue of defendant's charter or by agreement with plaintiff. Even if defendant is a "railway" within the meaning of the railway act, sec. 188 is not applicable, for it is not here proposing to carry its line "along an existing highway," & it cannot now avail itself of sec. 187, because it has not complied with its provisions as to expropriating land. The defendant must therefore be perpetually restrained. Plaintiff is also entitled technically to succeed on the second branch of the case. Judgment for plaintiff, with costs of motion & action. The Co. at once gave notice of appeal.

**Niagara & Southwestern Electric Ry.**—J. S. Campbell, solicitor, St. Catharines, Ont., gives notice of application to the Ontario Legislature to incorporate a company under this name with power to construct & operate an electric railway from Niagara-on-the-Lake through or near St. Catharines, & the village of Smithville, to Hagersville, with branches from the main line at or near De Cew Falls to Hagersville via Dunnville & Cayuga, & from Niagara-on-the-Lake to Queenston.

**The Niagara, St. Catharines & Toronto Ry. Co.** gives notice that a mortgage deed, dated Nov. 1, 1899, made by the Co. to the National Trust Co., securing a bond issue, has been deposited in the office of the Secretary of State for Canada.

The Co. is having 4 motor cars built. They are each 50 ft. in length, will accommodate 40 people & are provided with separate smoking & baggage departments.

**Ottawa & Dundas Electric Ry.**—Notice is given of application to the Ontario Legislature to incorporate a company under this name, to construct & operate a railway from Ottawa; through the townships of Gloucester & Osgoode, & through the county of Dundas, to some point on or near the St. Lawrence River, with branch lines.

**Ottawa Electric Ry.**—At the annual meeting, Jan. 29, the following report was presented for the year ended Dec. 31, 1899, shewing a net profit of \$85,280.37. Out of this amount 4 quarterly dividends of 2% have been declared, amounting to \$65,184, leaving \$20,096.37 to be carried forward to the credit of profit & loss, making the total to the credit of that account \$95,080.81. The gross earnings for the year were \$263,545.05, compared with \$231,806.02 in 1898. In order to provide against the disablement which an accident to the Co.'s power house plant would probably cause, a duplicate power plant consisting of a set of horizontal water wheels of a capacity of 1,800 h.p., directly connected to a generator of a similar capacity, is being installed. The new plant will be housed in fire-proof buildings. It is expected this duplicate plant will be ready for operation within the next few weeks. In Sep., 1899, a contract was made for the building of an extension of the Co.'s lines from Holland Avenue, in Hintonburgh, to Britannia-on-the-Bay, about 4½ miles. The work will be ready about May 1 next. The western terminus is beautifully situated on the bay, & is the only absolutely safe beach for bathing in the neighborhood of Ottawa. This line should become very popular, as the route is very picturesque; the road double tracked with 72 lb. rails, & the equipment modern & up to date. A Sunday car service was inaugurated on July 23 last. Late last season, the City having decided to lay an asphalt roadway on Wellington St., between Lyon & the junction of Sparks St., the Co. renewed its tracks for this distance, putting down a 72 lbs. rail instead of the then existing 56 lbs. rail. As has been the custom, everything connected with the system has been kept in a good state of repair, & the high standard which has been aimed at ever since the Co. commenced operations has been maintained.

STATISTICAL STATEMENT 1892 to 1899.

	11 Mos. to May 31, '92.	12 Mos. to May 31, '93.	12 Mos. to May 31, '94.	12 Mos. to May 31, '95.	7 Mos. to Dec. 31, '95.	12 Mos. to Dec. 31, '96.	12 Mos. to Dec. 31, '97.	12 Mos. to Dec. 31, '98.	12 Mos. to Dec. 31, '99.
Gross receipts.....	\$71,608.99	\$110,071.67	\$120,484.02	\$193,991.36	\$128,173.98	\$122,103.85	\$223,801.67	\$231,802.06	\$263,545.05
Total expenses.....	45,199.80	70,221.25	83,324.64	122,335.67	73,983.48	144,360.24	151,462.04	159,158.91	178,264.68
Net profit.....	26,409.19	39,850.42	46,159.38	71,655.69	54,190.50	67,743.61	72,339.63	72,643.15	85,280.37
Passengers carried.....	1,520,405	2,094,904	2,797,281	4,119,084	2,843,173	4,263,215	4,762,082	5,133,938	5,833,849
Percentage of operating expenses to receipts.....						54 1/2	54 1/2	56 1/2	57 1/2

ASSETS AND LIABILITIES DEC. 31, 1899.

ASSETS.

Roadbed & equipment, waterpower property & plant, real estate & buildings.....	\$1,312,812.93
Stores.....	3,573.40
Accounts receivable.....	1,941.26
Discount unearned.....	4,465.00
Cash on hand.....	4,642.06
	<u>\$1,327,434.65</u>

LIABILITIES.

Capital stock.....	\$814,800.00
Bonds, 4%.....	310,000.00
Dividend 22, payable Jan. 2, 1900.....	16,296.00
Accounts payable.....	17,221.92
Bank of Commerce.....	24,035.92
Bills payable.....	50,000.00
Balance carried forward.....	95,080.81
	<u>\$1,327,434.65</u>

PROFIT AND LOSS ACCOUNT.

Balance at credit Dec. 31, 1898.....	\$74,984.44
Net profit in 1899.....	85,280.37
	<u>\$160,264.81</u>
Dividends paid April 1, July 1, & Oct. 1, 1899, & Jan. 2, 1900.....	\$65,184.00
Balance at credit Dec. 31, 1899.....	95,080.81
	<u>\$160,264.81</u>

Following are the officers for the current year: President, T. Ahearn; Vice-President, J. W. McRae; other directors, G. P. Brophy, W. Y. Soper, P. Whelan, T. Workman, A. Lumsden; Sec.-Treas., J. D. Fraser.

In the case of the village of Hintonburgh versus this Co., decided Jan. 16 in the Court of Appeals, Toronto, the facts were as follows:



INCOME ACCOUNT.

Dividends paid April 1, July 2 & Oct. 1, 1899, & Jan. 2, 1900	\$240,000.00
Pavement charges	64,000.00
Balance	128,869.43
<b>Income over &amp; above all expenses &amp; fixed charges to Dec. 31, 1899</b>	<b>\$432,869.43</b>

The old board was re-elected as follows: President, Wm. Mackenzie; Vice-President, Jas. Ross; other directors, Hon. G. A. Cox, W. D. Matthews, C. E. L. Porteous, F. L. Wanklyn, J. Gunn.

The gross earnings for Jan. were—

	1900	1899	Increase.
Jan.	\$113,793.96	\$95,690.12	\$18,013.84

Judgment was given by the Court of Appeal at Osgoode Hall on Jan. 16, on the appeal by the T.R. Co., against the judgment of Judge Ferguson, who decided that in ascertaining the mileage chargeable to the Co., under the agreement between it & the City, all tracks of the Co. in the City must be measured. The principal contention was as to the meaning of the word "turn-out." The contract between the City & the Co. provided that turn-outs should not be charged for. The contention by the City was that there are no turn-outs, inasmuch as the railway is a double track line, & its counsel contended that only side tracks were intended to be meant by the word turn-out. It was contended on the part of the Co. that some meaning ought to be given to the expression, & that as the agreement provided for the street railway portion of the roadway being 16 ft. 8 in. in the centre thereof, & provided only for straight lines of track on the different streets, that curves or other methods of turning from one street to another were the turn-outs meant by the agreement. It was also contended that at intersections the track was not to be charged for twice, inasmuch as only the same portion of the roadway was taken up. The Court of Appeal confirmed the judgment of Judge Ferguson, & declined to exclude from payment of mileage any of the tracks where there is more than one double track on the street railway part of the street, or where there are connecting railway tracks, or Y tracks, or temporary tracks, or tracks in sheds, or broken parts of a mile, or tracks in places where the City has not put down permanent pavements in conjunction with the laying of the tracks. The Court, however, sustained the Co.'s contention as to that part of the railway which is not on the streets of the City, namely, the portion in High Park. The counter-claim of the Co. for the value of pavements which were brought from the City at the time of the original purchase, & which were paid for by the Co., & afterwards taken possession of by the City, was disallowed, the Court holding that such pavements were part of the highway, & that the materials therefor belonged to the City & not to the Co.

**Toronto Suburban St. Ry.**—At the annual meeting, Jan. 24, the following were elected:—President, F. Turner; Vice-President, E. P. Heaton; other directors, R. W. Smith, R. T. Henderson, A. Royce, Jr., R. L. McCormack. There was a general discussion as to extending the road further into the county, & arrangements were made to go into the matter in detail.

**Woodstock, Thames Valley & Ingersoll Electric Ry.**—Wallace & Little, solicitors, Woodstock, give notice of application to the Ontario Legislature to incorporate a Co. under this name, to construct & operate an electric railway in & through the town of Woodstock, & through the township of West Oxford to, in, & through the town of Ingersoll, with a branch from Beachville to Embro. The town of Woodstock has granted the promoters of this Co. a 50 years' franchise.

Electric Lines in Western Canada.

British Columbia Electric Ry.—Earnings & expenses for Dec., 1899:

GROSS EARNINGS.	1898.	1899.	Increase.	
			or	Decrease.
Railway—Vancouver division	\$5,866	\$7,676	\$1,810+	
Victoria	7,419	8,272	853+	
Westminster	5,704	7,030	1,326+	
Lighting—Vancouver	15,265	14,671	594-	
Victoria	7,268	8,046	778+	
Total gross earnings	\$41,522	\$45,695	\$4,173+	
Working expenses	\$23,989	\$23,122	\$867-	
Net earnings	\$17,533	\$22,573	\$5,040+	
Gross earnings April 1 to Dec. 31	\$307,711	\$341,605	\$33,894+	
Net earnings from April 1 to Dec. 31	\$126,966	\$154,686	\$27,720+	
			+ Increase.	- Decrease.

The Co. is believed to have in contemplation several improvements of an extensive character to its Victoria system. As soon as that city determines upon the question of the replacing of the James Bay & Rock Bay bridges with structures of a more stable character, & the paving of Yates St., the Co. will double track the line from Oswego St., James Bay, to the Fountain. When this has been accomplished the C.P.N. Co. may consider it advisable for the str. Islander to leave from the outer wharf instead of the inner harbor on the new daylight service, providing the tramway service will cause no inconvenience to passengers. The Co. has reduced its fares in Victoria, & now sells 25 tickets, good over all lines within the city limits at any time, for \$1. It is expected that larger cars will be placed on the Esquimalt run as soon as arrangements are completed with the City in regard to the bridges on that route.

Traffic Manager Shiles has been transferred to New Westminster, his place in Vancouver being filled by J. J. Franklin.

**Winnipeg Electric St. Ry.**—H. J. Somerset, Operating Manager, recently resigned to take the position of General Manager of the street railways of Perth, Australia, for which place he has started. It is understood that H. Cameron, who for some time has been Business Manager of the Co., will now assume the whole management.

When in Winnipeg recently Wm. Mackenzie, of Toronto, speaking of the proposition from the city to purchase from the Co. the privilege of charging double fares after 11 p.m., said he would be willing to consider this & any other proposition the city might have to make. Asked if he would care to dispose of the railway to the city, he said:—"If it pays the city no better than it has paid the Co. in the past, there will be little in it for the public. We kept this railway going when the city was poor, & now when things are looking up, it is hardly right that we should be asked to sell it. However, we would consider any proposition they may make."

**Havana Electric Ry. Co.**—W. M. Doull, who recently returned to Montreal from Cuba, said in an interview:—"The Havana Electric Ry. Co., of which W. Hanson, of Montreal, is President, having amalgamated its interests with those of the Havana Traction Co., will now proceed with its work of reconstruction, & some 30 miles of track will be laid. The other parties interested are the Banque Internationale, of Paris; Buffer & Todd, of London; & what is known as the Harvey Syndicate, of New York. The railway will be running by Sep. 1, as the rails are now being landed, & the machinery will be shipped without delay. This, however, is not all, as the Cuban Electric Co. is another concern almost wholly controlled by Canadians, A. F. Gault being President, & W. M. Doull, Secretary-Treasurer. This Co. has secured the ferry system between Havana & a place call-

ed Regla, on the opposite side of the harbor, & containing a population of about 12,000 people, the locality being also the centre of coal depots, several docks & manufacturing enterprises. Regla promises to become the Jersey City of Havana, & from here the Cuban Electric Co. has secured the right of way to Guanabacoa, three miles distant, & a first-class electric tramway will be in operation between these two points early in Mar."

**Demerara Electric Co.**—F. B. Brothers, well known in Montreal & Toronto electric railway circles, recently returned to Montreal from Demerara, where he is manager of construction in the Demerara Electric Co. He stated that he was making arrangements for the purchase of rails, cars, &c., & that he would return just as soon as possible, as he expected that within six months the whole system would be in active operation. The Montreal capitalists who have purchased the old Georgetown tramway, with its mule motor power, as well as the electric light system, will immediately change the former, & it is believed the system will become a very profitable one. In the first place, some 12 or 15 miles of track will be laid down in the city of Georgetown, which has a population of somewhere near 70,000, but the company expects to make very considerable extensions later on. Mr. Brothers, in speaking of the population that would probably use the new electric railway when these extensions are made, said that there were fully 25,000 coolies within a short distance from the city proper, all of whom were engaged on the sugar plantations, consequently they had to go into Georgetown almost daily. Mr. Brothers stated that the company had already the station buildings, the car shed & power house well under way, & that as soon as the requisite rails & other material were received from Canada, the entire work would be rapidly pushed forward to completion.

C.P.R. Company's Telegraph.

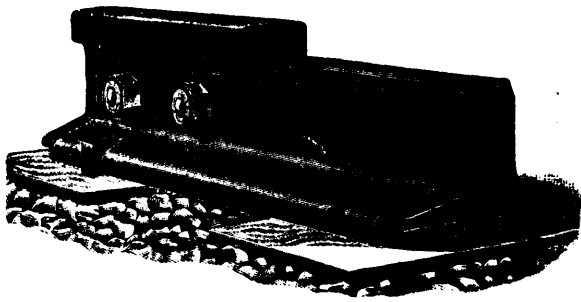
The building which has been erected on Hastings Street, Vancouver, for the headquarters of the C.P.R.'s commercial telegraph in that city attracts universal attention by its symmetrical proportions & general architectural attractiveness. The exterior of the building, which is constructed along the lines of the latest period of French architecture, is exceedingly handsome. Carved on the capitols are a number of grotesque heads in the Romanesque style, which add greatly to the appearance of one of the most handsome fronts in the city. Although principally devoted to the use of the C.P.R. Co.'s Telegraph, there will also be an up-town ticket office on the ground floor of the new edifice. In point of richness of design & finish, the interior of the ground floor of this building is unequalled by any used for similar purposes, from coast to coast, in the Dominion. It is on this floor that the telegraph & ticket offices are situated. A private office is provided for the Ticket Agent, also one for Local Manager Quigley, of the Telegraph Department. In the rear, on the ground floor, is a commodious room where the ubiquity of the small boy, of the genus known as telegraph messenger, will receive an effectual quietus for the time being. All messages for delivery will be handed to the boys through a window opening into their room. A door in this room opening on the lane provides an entrance & exit for the messengers. The heating of the entire structure is by hot water. The whole lower floor has been decorated, regardless of cost, consistent with the exacting requirements of a corporation which aims to please its patrons. All the wood finishing, such as wainscoting, partitions, &c., is in oak. The counters of the telegraph & ticket offices are topped with heavy plate glass, which is rather unique. Some very fine work has been done on the pannel-

ling of the ceiling. There are also store-rooms, cloak-rooms, lavatories, &c., on each floor. The sanitary & heating arrangements throughout the building are of the most up-to-date character. Luxfer prisms are used in a number of transom lights, to afford the greatest amount of illumination. The ground floor is connected with the operating room by pneumatic tubes; telegrams are placed in a small leather box, then inserted in the tubes, electric power turned on, & wind pressure created by means of a small blower. Received telegrams drop from the operating room into the delivery department by gravity. Tubes also connect the Superintendent's office with the operating room & the first floor.

The operating room has a capacity for 15 quartette operating tables, although only 9 are being set up at present. It is lighted by 3 large windows in the front & a skylight in the rear, & the ceiling being 14 ft. high, & the room well ventilated, the operators will have very pleasant quarters. The tables were made in Vancouver according to the standard adopted by the Co. The tops are of red cherry; the legs, etc., are of hard maple. Instead of the tables being divided into 4 spaces by glass partitions, as formerly, the sounders (or reading instruments) are placed in small resonators by which the sound is directed to the operator's ears. The tables are connected by cables through zinc-lined ducts under the floor to a distributing board in the switch cabinet. This cabinet is a novelty on the Pacific coast. The face of it is divided into 3 portions, the first on the left being devoted to the battery switches & appurtenances. These are mounted on a marble slab in order to prevent any danger from fire through the arcing of the electric currents. The centre portion is occupied by what is known as a local switch,

by means of which any duplex, quadruplex or single wire can be connected with any other set in the office, thus permitting wires to be worked through, for instance, from Montreal to San Francisco without the interposition of the operator at Vancouver. The remainder of the centre section is taken up by a number of small electric light switches which are used for varying the power on the different multiplex sets. The right hand section is occupied by the main line switch, a patent especially designed to avoid any arcing of the electric currents, which is very liable to happen in a moist climate when either storage battery or dynamo currents are used. Nearly the whole of the upper portion of the cabinet is covered by incandescent lamps. These are for the purpose of lengthening out the various circuits in the office; they are also frequently of benefit in calling attention to outside interference with the wires, as when any wire becomes earthed or crossed by another wire within 40 or 50 miles of the city the lamps will glow, thus directing the attention of the chief in charge who at once disconnects the battery power & tests out the fault. Inside of the cabinet are two motor generators. These are used to transform the 500 volts electric railway current to 140 & 7 volts, respectively, for the purpose of charging the storage batteries. At the other end of the interior of the cabinet is the before-mentioned distributing board & the terminals of the aerial cables. A number of short cables connect one portion of the distributing board to the various appliances on the face of the cabinet. Connection is made from these cables to the cables from the tables by short pieces of wire. By this arrangement any change that is desired to make in the wiring of the office can be easily made at this point without altering the connections

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Railroads.

**Fewest Parts.  
Strongest and Safest.  
Provides for increased ton-  
nage up to date.  
Steel Castings.**

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**F. E. CAME,**  
17 Place d'Armes Hill,  
MONTREAL.

**LELAND HOTEL, Winnipeg Man., W.**  
D. Douglas, Proprietor. Rooms en suite with baths and all modern conveniences. Rates \$2 to \$4 a day. Special rates for families and large parties, according to accommodation and length of time. Though moderate in price the Leland is first-class in every respect. It is especially adapted to please the commercial trade. It is in the centre of the wholesale and retail district. It is in direct communication with all parts of the city by car lines. It is supplied with the purest spring water from flowing well on the premises.

### The Canadian Pacific Railway Company.

Dividends for the half-year ended 31st December, 1899, have been declared as follows:—

On the Preference Stock three per cent.

On the Common Stock three per cent.

Warrants for the Common Stock dividend will be mailed on or about 2nd April to Shareholders of record at the closing of the books in New York and London respectively.

The Preference Stock dividend will be paid on Monday, 2nd April, to Shareholders of record at the closing of the books at the Company's London Office, 1 Queen Victoria Street, London, E.C.

The Common Stock Transfer books will close in London at 3 p.m. on Tuesday, 27th February, and in Montreal and New York on Friday, 9th March. The Preference Stock books will close at 3 p.m. on Tuesday, February 27th.

All books will be reopened on Thursday, 5th April.

By Order of the Board,

CHARLES DRINKWATER,

Montreal, 12th February, 1900.

Secretary.

## THE FIRSTBROOK BOX CO.,

LIMITED.

CROSS ARMS, TOP PINS,

AND SIDE BLOCKS,

✻ ✻ TORONTO. ✻ ✻

### The Canadian Pacific Railway Company.

#### NOTICE TO SHAREHOLDERS.

The Nineteenth Annual Meeting of the Shareholders of this Company for the election of Directors and the transaction of business generally will be held on Wednesday, the fourth day of April next, at the principal office of the Company at Montreal at 12 o'clock noon.

The Common Stock transfer books will close in London at 3 p.m. on Tuesday, 27th February, and in Montreal and New York on Friday, 9th March. The Preference Stock books will close at 3 p.m. on Tuesday, February 27th.

All books will be reopened on Thursday, 5th April.

By Order of the Board,

CHARLES DRINKWATER,

Montreal, 12th February, 1900.

Secretary.



**I**f time has a commercial value;  
promptness secures business  
immediate information is required:  
an answer is wanted, and wanted quick:  
you are not in business for exercise:

**STAY AT HOME  
AND TELEPHONE.**

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STEEL AXLES, TYRES, AND  
SPRING STEEL.

"PHENIX" Loco. Spring Steel is the  
accepted Standard in Canada.

SOLE AGENTS:

James Hutton & Co., Montreal.

## UNIFORM CAPS

For Steam and Electric Railway, Steam-boat, Yacht, Express and Telegraph Officials, Messengers, etc. Also Hats and Helmets.

Embroidery in Gold and Silver Bullion,

As Letters, Badges, Wreaths, &c., &c.

**W. H. CODDINGTON,**

Hamilton, Ontario.

NOTICE is hereby given that The Dominion Atlantic Railway Company will apply to the Parliament of Canada, at the next session thereof, for an Act confirming the company's issues of capital stocks, the conveyance to the company by the Windsor and Annapolis Railway Company, dated the thirty-first December, 1895, the Mortgage Trust Deeds made by the company, and the first and second debenture stocks, issued and to be issued, thereunder, to the amount of 900,000 pounds (sterling), and also to enable the company to increase the capital stock, borrow and secure money upon ships and other outside property of the company, to create reserves, and for other amendments to the Act incorporating the company.

CHRYSLER & BETHUNE,

Solicitors for the Company.

Dated the 7th November, 1899.

## THE HUNTER, ROSE CO.,

All kinds of... Limited.

PRINTING, BOOKBINDING,  
OFFICE STATIONERY  
AND ACCOUNT BOOKS.

Temple Building, • • Toronto.



at any other place. The terminals of the aerial cables are thoroughly protected by both ground plates & fuse wires, so that no lightning or other heavy current can endanger any part of the apparatus in the office. The wires are brought from the railway to the office by cable.

On the second floor is the office of the Superintendent of Telegraphs for the Pacific division, a room for newspaper correspondents & the battery room. In the battery room there are 500 small cells of storage battery for working the main lines, & 8 cells of a much larger type for working the sounders. These batteries take up very little space, and replace some 1,200 chemical cells which were used in the old office. Their capacity is equivalent to 4,000 cells of the old style.

The architect of the building was C. R. Oldershaw & the contractor T. Tompkins. W. J. Camp, recently appointed Superintendent of the Co.'s eastern telegraph lines, planned out the whole work of fitting the office while he held the position of Electrician of the Co., & went out to Vancouver in Jan. to superintend the work, in which he was assisted by J. Fletcher, chief operator at Vancouver, who is an expert electrician & has become thoroughly familiar with the new appliances. It may be added that in future all messages received in the Vancouver office will be written on typewriter machines.

Superintendent Wilson, of the Pacific Division, says the telegraph line recently opened along the line of railway from West Robson to Midway, B.C., is one of the best constructed in Canada & that a large business is already being done on it.

The Co. has purchased the building which it has for some years occupied as telegraph headquarters at the corner of Hospital & St. Francois Xavier streets, Montreal. The building will be replaced by an up-to-date structure, the erection of which will probably be commenced in the spring. Temporary quarters will have to be found, but where these will be has not yet been decided upon. It is too early to say what the plans of the new structure will be like, but it is safe to assume that the building will be a credit alike to the Co. & to the city.

On the lines west of Lake Superior a large amount of work will be done during the coming summer. The work of strengthening & renewing the pole line, which has been in progress for the past three years, will be continued. The main line on the Western Division will be finished to Laggan. The line from Fort William will be first class throughout in every respect, & second to none on the continent. To provide adequate facilities, additional wires will be strung in Manitoba, between Winnipeg, Napinka, & Estevan, & on the main line west of Moosomin. On the Pacific Division considerable work will be done on the pole line on the main & branch lines. Additional wires will be strung in the Kootenay district.

### The Pacific Cable Question.

In the British House of Commons, Feb. 1, J. F. Hogan, M.P., questioned Colonial Secretary Chamberlain in regard to the Pacific cable scheme, & elicited the following reply:—

"I am making enquiries with a view to a settlement of some definite scheme with regard to the Pacific cable. These enquiries relating to technical questions necessarily take time. There is no doubt but that there will be no avoidable delay."

Mr. Hogan also had an enquiry in regard to the concessions to the Eastern Extension Telegraph Co., by the Government of New South Wales, & Mr. Chamberlain, in reply, said that he understood that the application was under the consideration of the Australian Government, but he had not yet been informed

whether they had arrived at a decision. The bearing of the application on the prospects of the Pacific cable would no doubt have been fully considered by them.

The Colonial Office is in receipt of a number of communications from Canada and the Australian colonies regarding the pending danger to the scheme for an all-British cable from Canada to Australia through the grasping methods of the Eastern Telegraph Co. Lord Strathcona pointed out that the concessions to the Eastern Telegraph Co., in New South Wales, sanctioned by the Colonial Office, but not yet put into effect, are likely to be inimical to the scheme, & it is now learned that land line facilities asked for by the cable company in Australia are not likely to be granted until the matter is thoroughly sifted. The board elected to go into the question of the cost of constructing the Imperial cable is continuing its labors, & the calls for tenders are to be sent out shortly. Its hands are strengthened by the British Empire League, which has passed a resolution in favor of refusing assent to the concessions asked for, & recording its opinion that the Pacific cable scheme is of vital strategic & commercial importance to the Empire.

### Montreal Telegraph Company.

At the 53rd annual meeting in Montreal, Jan. 11, the following balance sheet was presented to Dec. 31, 1899:

ASSETS.	
Telegraph lines.....	\$1,625,890.00
Telegraph cables.....	33,487.39
Offices & equipment.....	212,500.00
Real estate, in Montreal, Ottawa, Quebec & Toronto.....	279,946.46
Cash, other real estate (old telegraph building, St. Sacrament St., Montreal), accounts receivable, &c.....	115,988.13
	\$2,267,811.98
LIABILITIES.	
Shareholders' capital.....	\$2,000,000.00
Dividend 142, payable Jan. 15, 1900.....	40,000.00
Unclaimed dividends.....	586.20
	\$2,040,586.20
Excess of assets over shareholder's capital.....	151,823.85
Contingent fund.....	75,401.93
	\$2,267,811.98

Since the presentation of the last annual report, 4 quarterly payments of the dividend of 8% per annum, guaranteed by the Western Union Telegraph Co., have been made. The Co. continues free from debt or encumbrance of any kind.

The directors were unanimously re-elected as follows:—President, A. Allan; other directors, H. Mackenzie, J. Joseph, W. Wainwright, H. Archbald, H. A. Allan, W. McMaster.

### Dominion Government Telegraph Lines.

J. B. Charleson left Ottawa Jan. 31, with 25 men, to construct the branch telegraph line between Bennett & Atlin, B.C.

Some information about the Kamloops Nicola, B.C., telegraph line will be found under the head of General Telephone Matters on this page.

The Dawson Board of Trade has petitioned the Yukon Council to consider the advisability of extending the telegraph service down the river as far as Forty Mile, the boundary settlement to the north. The large U.S. population in Dawson are discussing the possibility and usefulness of a service from Forty Mile to St. Michael's.

Dominion Commissioner Ogilvie, in discussing the question of Alaska and Yukon Territory telegraph service, asserts his belief that that country is especially adapted for the Marconi system, on account of the succession of mountain peaks & the rarefied condition of the atmosphere. He would like to see the system tried there.

The Northern Commercial Telegraph Co., gives notice of an application to the Dominion Parliament for an act extending the time for commencing & completing the lines authorized to be constructed by the Co., to increase its capital stock, & for other purposes.

Nearly 200 skilled telegraph operators from the British Post-Telegraph Department have gone to the seat of war in South Africa, & have been rendering splendid service. The Wheatstone automatic system is used on the field of battle, & probably for the first time in the history of warfare. It was worked duplex. Telegraphers were under fire for a whole day at Modder River, & still sent their messages. Both official despatches & press messages, numbering 100,000 words, were sent at this time. After the Magersfontein battle the operator sent despatches at the rate of 200 words a minute. A tape, of course, was prepared by punchers in advance.

It is said that the Ann Arbor Ry. has closed a contract with the Marconi people for apparatus to operate a system of wireless telegraphy in connection with the car ferry business of that road across Lake Michigan. One office is to be at Frankfort, Mich., on the east side of the lake, & the other at Menominee, Mich., on the west side, the distance between the two points being 83 miles. A direct line between the two points passes across the peninsula to the east of Green Bay. At present the railway company must depend for telegraphic communication, upon a line around the lake, through Chicago, & quite frequently, during stormy weather, the company is put to a good deal of inconvenience by the interruption of such communication. It is said that if this system fails to operate satisfactorily a cable will be laid across the lake.

### General Telephone Matters.

It is said that the Nova Scotia Telephone Co. will extend its lines to Sydney, which will include cable connection across the Strait of Canso.

The Columbia Telephone & Telegraph Co. & the Spokane Falls & B.C. Telephone Co. have amalgamated. Their lines run through the various mining camps & towns of West Kootenay.

It is announced that the Dominion Minister of Public Works has arranged for the telegraph line recently completed between Kamloops & Nicola, B.C., to be changed to a telephone system.

J. R. Brown, solicitor, gives notice that application will be made to the B.C. Legislature to incorporate a company to construct & operate telephone & telegraph lines within that province & with other powers.

The People's Telephone Co. gives notice of application to the Quebec Legislature for the confirmation of powers already given by its letters patent, for an increase of its capital stock, & for the issuing of bonds.

The Pontiac Telephone Co., with headquarters at Bryson, Que., has sold its plant, &c., to the Rev. G. A. Picotte, of Calumet Island, & the Rev. V. Ferrarie, of Vinton. It is said to be their intention to extend the line to Pembroke, Ont.

The New Westminster & Burrard Inlet Telephone Co., which operates in Vancouver & New Westminster, connects by its long distance lines with 15 other offices in British Columbia, most of which are in the delta of the Fraser. It also has long distance connection with 31 points in Idaho, 56 in Oregon, & 127 in Washington.

A Toronto broker has issued a prospectus of the Dodge Telephone Co. of Canada, Ltd., the capital being stated as \$3,000,000, divided into 1,500,000 8% fixed cumulative preference shares of \$1 each and \$1,500,000 ordinary shares of \$1 each, for the former of which



ASSESSMENT SYSTEM.



THE BEST FRATERNAL BENEFIT SOCIETY IN THE WORLD.  
THE SPLENDID RECORD OF THE I. O. F.

Cost to Join the I.O.F.

<b>(For \$1,000 Mortuary Benefit.)</b>		<b>(For more than \$1,000 Mort. Benefit.)</b>	
Initiation fee (minimum).....	\$ 1 00	Cost to take \$2,000 Mort. Benefit..	\$6 00
Certificate fee.....	1 00	" " \$3,000 " " "	7 00
Registration fee.....	1 00	" " \$4,000 " " "	9 00
Medical Examination fee.....	1 50	" " \$5,000 " " "	10 00
Total minimum cost.....	\$4 50	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 costs 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	12,058 86	2,967 93	2 61	11.00
1883	2,216	9,493 68	10,857 65	4 91	4.73
1884	2,558	13,914 31	23,081 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	24,604	181,846 79	283,967 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	858,857 89	15 76	5.47
1894	70,055	511,162 30	1,187,225 11	16 94	5.47
1895	86,521	685,000 18	1,560,723 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	2,558,832 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.      John A. McGillivray, Q.C., S.S., Toronto, Ont.  
James Marshall, 24 Charing Cross, London, Eng.      A. E. Stevenson, 6436 Kimbark Ave., Chicago, Ill.  
Or any Officer or Member of the Order.

subscriptions are asked. No board of provisional directors is named.

Some Maritime Province papers have given currency to a rumor that the Nova Scotia Telephone Co. would extend its line to Sydney, which would include cable connection across the Strait of Canso. We are informed that the matter has merely been spoken of, & has not been considered by the Board. Such a line would probably cost \$50,000, & it is not believed that there is enough present business to warrant such an outlay.

The New Brunswick Telephone Co. has decided to build a line from Fredericton to Chatham, N.B., & has let a contract to J. Barnes for supplying & erecting poles & cross arms & erecting the wire, the latter of which the Co. will furnish. The Co. is also reported to have closed a contract for a line from St. John to St. George, & on to St. Stephen, where connection will be secured with Calais, Me., which will give connection with other parts of that State, the system connecting with Calais being a pretty extensive one.

J. H. Jewell, claiming to represent the London & Berlin Banking Corporation, which is incorporated pursuant to the laws of England, has applied to the Toronto City Council asking for the right to lay conduits, pipes & mains, together with their connections, for the purpose of supplying telephones & to make the necessary excavations upon the public streets, etc., for the purpose of construction & repair. The petitioner says the Corporation will agree to furnish each department of the municipal government telephones free of charge, also to furnish telephones for business purposes at \$34, & for residential purposes at \$18 a year.

The New Westminster & Burrard Inlet Telephone Co. has presented a petition to the B.C. Legislature, stating that under the powers conferred by its act of incorporation passed in 1886 by the Legislature, it has established a telephone system in Vancouver, & has been operating the same for about 10 years, that about \$300,000 have been invested in the construction of the system, the greater part of the capital being owned by shareholders outside of the province, & that the plant, &c., is in good working order, & will not require in the ordinary course any alterations or repairs on any extensive scale for some years. The Co. protests against certain clauses of a bill which has been introduced in the Legislature on behalf of the city of Vancouver for the purpose of amending the city's incorporation act, & claims that the city should not be allowed to enter into competition with the Co. without first compensating the Co. on equitable terms. Other objections are taken to the bill, particularly in regard to the power which the city seeks to impose a license fee.

#### Telephone Competition Impracticable.

The Windsor, Ont., Record says:—"The gobbling up of the Detroit Telephone Co. by the Bell Co. reminds us of the attempt that was made to inflict two telephone systems upon Windsor. For a year or two past, the City of Detroit has had to bear the expense & annoyance of two telephone systems. Every business man was compelled to pay for two phones in his place of business, & many of them in their residences. The relief that this absorption of the second telephone company has been to the business men of Detroit is told by one of the papers. The Detroit News said:—

"No city is big enough for two permanent competing telephone systems, & that one of the local concerns should absorb the other was as inevitable from the beginning as sunrise & sunset. It is all very fine to theorize about competition; but competition in respect to telephone service must be as unsatisfactory to the customers as it is unprofitable to the companies. Telephone service is one of those

natural monopolies created by the very force of circumstances. There can be competition in telegraph service, in the express business, & with certain limitations, in the railway business, but competition in telephone service means a great deal of annoyance, if no increased expense, to the user, if he tries to secure as efficient a service through two companies as he could secure through one. Now that it has been gobbled up, eyes, suckers & tentacles, we have no disposition to sneer at the educational & humanizing influences that Mr. Pingree's quondam tame octopus exerted over the extraordinarily repulsive brute that the Bell Co. chaperoned; but we are not prepared to shed any tears because the previously mentioned tame octopus has been gathered into the omnivorous maw of its loathsome rival. It was ordained in the beginning that one of them had to go, & it was evident as well that the octopus with the fewer opportunities for increasing its rations would stand the less chance in such a contest, in which only the fittest can survive."

"The business men of Windsor will now appreciate the words of warning raised by The Record when the attempt was made to foist two telephone systems upon us & will thank the aldermen who stood out successfully against it. Two telephone systems & two street railway systems have been an expensive & fruitful source of annoyance to the people of Detroit & to those visiting that city. They were largely the outcome of political demagogues who were seeking for public favor. It is often a cheap way of gaining notoriety & a certain quality of popularity to denounce corporations, but it is often as unfair as it is injurious, where corporations are in possession of the franchise of a natural monopoly, such as a telephone or street railway system, then every precaution should be taken in the way of regulations to protect the interests of the public. Companies in possession of these great natural utilities should be compelled to give a reasonably good service & not be allowed to take excessive profits from the people. On the other hand, they should not be subjected to petty annoyances & neither should their capital be sacrificed or put in jeopardy by irresponsible popularity hunters or corporation smashers."

#### The Bell Telephone Company.

The Co. is constructing a fire alarm system in St. Thomas, Ont.

In London, Ont., the Co. is placing a number of its wires underground.

H. L. Simpson, Local Manager at Owen Sound, has been transferred to St. Catharines, Ont.

We are officially informed that the Co. has decided to construct a long distance line between Winnipeg, Portage la Prairie & Neepawa, & that the work will be proceeded with as soon as weather will permit.

It is rumored in Montreal that the Co. will enter suit against certain local manufacturers of phones on the ground of patent infringements. President Sise has given notice that the Co. owns Canadian letters patent 35,920, granted to J. J. Carly for improvements in telephonic circuits & arrangements, covering all forms of bridging bells.

The Co. has recently completed & opened for business a heavy long distance copper metallic circuit line between Ottawa, Carleton Place, Smith's Falls & Brockville. Work on this line was begun last May at Ottawa, & was expected to be completed in Oct., but owing to the quantity of rock encountered on the road, the work was somewhat delayed. The Co. used a portable steam rock drill to drill the holes before blasting, & for this purpose 10,000 lbs. of dynamite were used. The completion of the line required upwards of 3,500 poles, 4,000 cross arms & 75,000 lbs. of

copper wire. This line gives Ottawa a most direct & perfect long distance service with Buffalo, Toronto, Hamilton, London & other western points, & at the same time a reduction has been made in the rate for conversations to such places, as formerly business had to go via Montreal to reach them. Additional copper circuits have been constructed between Smith's Falls, Irish Creek & Brockville, & long distance offices opened at North Augusta & Algonquin; also a heavy copper circuit from Brockville to Prescott connecting direct to Ogdensburg through the new submarine cable across the St. Lawrence river at Prescott, which was laid about a month ago. This will give Ottawa direct & prompt connection with Utica, Watertown, Ogdensburg & other Central New York points. The Co. has also constructed an additional copper wire to Annprior, which will be used to convert the existing single line to a metallic, greatly improving the service to upper Ottawa points. With the above new long distance lines & those already in use, Ottawa will have a long distance telephone service second to none, which may be further improved, as the Co. is considering the construction of new copper metallic lines between Carleton Place & Pembroke, & Perth & Smith's Falls, during the coming spring.

#### Among the Express Companies.

The Dominion Ex. Co. announces, until further notice, shipments of money & c. o. d. shipments must not be received for points on Montford & Gatineau Colonization Ry.

The Dominion Ex. Co. has opened offices at Garden River, Dinorwic, & Busted, Ont.; Cascades, Que.; Cowan, Man.; & Pasqua, Assa. The office at Temiskaming, Ont., has been closed.

The Maritime Ex. Co.'s head office has been removed from Halifax to Kentville, N.S. W. Fraser continues as Manager, in addition to his new position as Assistant Superintendent of the Dominion Atlantic Ry.

The Dominion Ex. Co. has opened a route on the extension of the Great Northwest Central Ry. from Hamiota to Miniota, Man., 20 miles. Offices have been opened on the extension at Crandell, Miniota & Minitonas.

D. C. Jackson, heretofore Superintendent of the Alaska Pacific Express Co., with headquarters at Skagway, Alaska, has been transferred to Seattle, Wash., & in addition to his duties as Superintendent, will also have charge of the auditing work.

The Dominion Ex. Co. has opened the following routes:—C.P.R. Snowflake branch, between Wood Bay & Snowflake, Man., 16 miles; C.P.R. Waskada branch, between Deloraine & Waskada, Man., 18 miles; Vankleek Hill & Hawkesbury wagon route, between Vankleek Hill & Hawkesbury, Ont.

The Dominion Ex. Co. gives notice that from Jan. 1, 1900 the clause printed on the face of each money order of the A. & B. series, requiring them to be presented within 3 months after date of issue, is no longer in effect, & these orders are payable at any time after the ordinary conditions have been complied with, regardless of the date of issue.

The Dominion Ex. Co. gives notice that shipments of money in any amount for Joliette, Que., office must not be received, nor must any notes, drafts, or accounts for collection at that point be received. This does not, however, prohibit the acceptance of merchandise shipments with bills to be collected c.o.d. This notice is issued in consequence of the repeated robberies of the express office at Joliette.

W. S. Stout, General Manager of the Dominion Express Company, whose portrait appears on pg. 33, was born at Havana, Ill., in

1858. When he entered the express service he was but 13 years old, being employed by the railway agent at Havana, who was also telegraph & express agent, to carry messages, collect freight & express bills, &c. At the age of 18 he was appointed acting agent at Havana for the U.S. Ex. Co. until the regular appointment was made, & during the following year ran as messenger. In the fall of 1878

he was appointed clerk in the joint office of the American & U.S. Ex. Co. at Bloomington, Ill. In Aug., 1879, he accepted a position in St. Louis under L. A. Fuller, Superintendent of the Union & Kansas Pacific Express (now the Pacific Ex. Co.), being a month later appointed Cashier of the St. Louis office of this Co., as well as of the Ohio & Mississippi Express. The latter position he

filled until July, 1882, when he was appointed Superintendent of the Western Division of the Dominion Ex. Co., with headquarters at Winnipeg. In 1884 he was promoted to the superintendency of all the Co.'s lines. This was followed by his appointment as General Manager, with headquarters at Toronto, & recently he was elected to the Vice-Presidency of the Co.

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

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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.

## 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.

## 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.

## PUSH PULL

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**.

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<b>Air Brakes &amp; Fittings</b> Westinghouse Mfg. Co. .... Hamilton, Ont.	<b>Groceries</b> The Hudson's Bay Company .....	<b>Shovels</b> James Cooper .....
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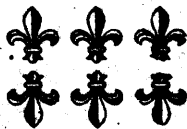
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