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Vol. 1. No. 2.

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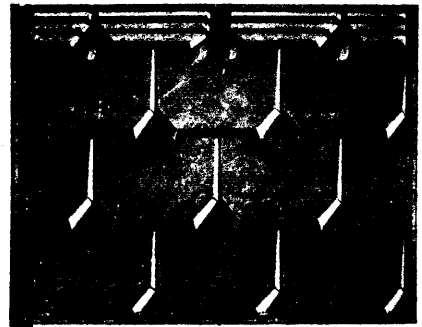
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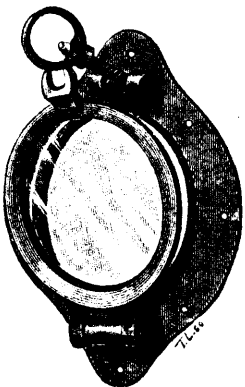
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VOL. 1. NO. 2.

TORONTO, CANADA, APRIL, 1898.

5¢ A YEAR.

The Minister of Marine.

Of Canada's varied & rich resources none should be more prized than the fisheries; & in a country whose vast lakes are inland seas & whose great rivers are the channels of a nation's commerce marine interests can never take second place. It is over the Department of Marine & Fisheries that the subject of this sketch, the Hon. Sir Louis H. Davis, K.C.M.G., presides.

Sir Louis Davis was born in Charlottetown, P.E.I., May 4, 1845. His father, the Hon. Benjamin Davis, M.P.P., of that city, was the son of Nathan Davis, who was one of the pioneers of the Island, coming to the colony in 1812. Sir Louis received his early education in Central Academy, Charlottetown, afterwards attending the Prince of Wales College & completing his professional education at the Temple, London, Eng. He was called to the Bar of P.E.I. in 1866, & six years later married the fourth daughter of the late Dr. A. V. G. Wiggins. A Liberal in politics, Sir Louis soon became prominent in his party, being Solicitor-General for the Island in 1869, again in 1872-73, & leader of the Opposition in the Legislative Assembly until Sept., 1876, when he became Premier & Attorney-General. In March, 1879, his administration resigned. In Nov., 1880, he was appointed Q.C., & in 1882 was elected to the Dominion Parliament, being again returned in 1887, 1891 & 1896. In the Federal House he became known as a shrewd & able critic, & a dashing & fervent debater. At the general convention of the party held in Ottawa, June, 1893, he was chosen leader of the Liberals of the Maritime Provinces. When the change of government took place the ability & services of the Maritime leader were recognized & he was sworn as member of the Privy Council & appointed Minister of Marine & Fisheries. His re-election was by acclamation. The activities of Sir Louis have not been confined to purely political matters. As President of the Merchants Bank of P.E.I., counsel for the tenantry before the P.E.I. Land Commission, & Canadian counsel before the International Fishery Commission at Halifax, he has become prominent as one whose interests are identified with those of the Maritime Provinces. In 1897, on the completion of the 60th year of H.M.'s reign, he was appointed Knight Commander of the Order of St. Michael & St. George, a fitting recognition of his public services. Sir Louis is a member of the Church of England.

A new office has been created on the G.T.R. Prof. McLeod, of McGill Observatory, has been appointed to have full charge of the transmitting of time over the wires, as well as the company's clocks & employes' watches.

J. A. Richardson, heretofore Canadian Passenger Agent of the Wabash, with office at Toronto, has been appointed District Passenger Agent with headquarters at Toronto and St. Thomas. He will have immediate supervision over passenger business originating in Canada.

MEETINGS, REPORTS, &c.

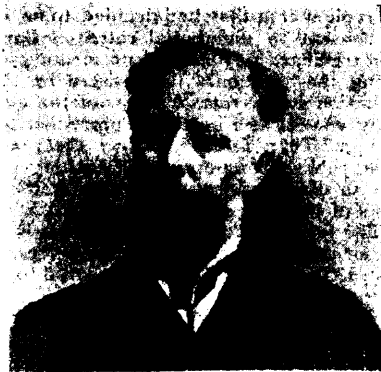
The Grand Trunk's Semi-Annual.

The half-yearly meeting of G.T.R. shareholders, held at the Cannon St. Hotel, London, Eng., April 5, was most enthusiastic.

The directors' report presented shows a net revenue surplus for the half-year ended Dec., 1897, of £275,263, being an increase of £236,177 over the corresponding half-year of 1896. The passenger traffic decreased £151,728 compared with 1896, however. Freight & live stock increased 410,960 tons, & the earnings per train mile increased 7d. The working expenses decreased nearly 7%.

The Chicago & Trunk shows a deficit of £49,467, being £17,950 better than 1896. The Detroit & Grand Haven shows an increased net revenue of £21,373, leaving a net deficit of £2,174 on revenue charges.

The directors report that an agreement has been entered into granting the Wabash R. Co. joint use for 21 years of a portion of the G.T. lines between Windsor & Black Rock station of the G.T.R. in Buffalo. The



SIR LOUIS H. DAVIES, K.C.M.G.

agreement provides that the Wabash pay the G. T. a rental commencing at \$275,000 a year, to be increased at the end of every 5 years by \$25,000 a year, until it reaches a maximum of \$350,000 a year, at which rental it will continue for the remaining 6 years of the agreement.

The directors regret to report that amicable relations with the C.P.R. have been interrupted in consequence of the unwillingness of the C.P.R. Co. to agree with its U. S. competitors & the G.T. upon equal passenger fares to & from western points. The negotiations which are now in progress it is hoped will result in a satisfactory adjustment of the disputed matters.

The directors record a high appreciation of the great ability displayed by General Manager Hays in promoting the interests of the Co. & of the exertions manifested by him & his staff towards the achievements of the remarkable results attending the working of the road in the past half-year.

The opening remarks of Sir Charles Rivers-Wilson, President, were warmly received, be-

ing punctuated with cheers as he recapitulated the heavy decrease in the expenses & the increases of revenue under the new regime. He gave great credit to the administrative ability of the staff in Canada, & praised them in the highest terms for the remarkable results, as shown by the statements up to the end of 1897.

"The Co. is not now only free from debt, for the first time since 1890," he continued, "but has more than enough cash on hand to meet the outstanding liabilities.

But while this was satisfactory the shareholders must be prepared for an expenditure from the capital account owing to the necessity for strengthening the line in order to haul heavier loads. This would begin on the Portland Division, and they would in June begin saving £8,000 yearly by a reduction of interest owing to the redemption of the 6% bonds. The expenditure from the capital account would be spread over a series of years so as not to cripple any particular year. The President said the Victoria Jubilee Bridge at Montreal was progressing satisfactorily. He expressed the belief that an agreement with the Government in regard to the Intercolonial running powers would soon receive statutory sanction, & said the principle which the present board had always followed was to seek the maximum amount of business at the minimum cost. He congratulated them upon the results of this policy, which, he said, was best illustrated by the fact that the road during the last half-year had hauled 25.4 freight cars per train, compared with 22.8 during the preceding half year.

He especially congratulated the meeting on the building up of the Portland trade. The G.T.'s proportion of the earnings on the Montreal and Portland line was for 1897 almost double that of 1896, & three times that of 1895. He, however, said nothing in reply to the criticism of the G.T. building up foreign ports.

Referring to the rate war he made a long exposition of the differences with the C.P.R., beginning with the Toronto & North Bay disputes. He insisted that the G.T. had, by repeated proposals for arbitration and otherwise, done everything to avert the war. He declared the C.P.R. desired an exclusive contract with the G.T.R. in order to weaken the Chicago connection & damage the G.T.'s connecting roads to Chicago. The G.T.R., he said, would never give up its close alliance with its allies. On the larger question of differentials & the Klondike business, he said the C.P.R. had yet to prove its title to a differential. The negotiations would be continued next month, when it was believed an agreement would be reached. He did not believe that Sir Wm. Van Horne was serious in threatening to build a new parallel line from Toronto to North Bay. He could not conscientiously recommend the English public to find the money. He did not grudge Sir Wm. Van Horne and Mr. Shaughnessy their pride in the C.P.R., but he believed they would soon see the error of their ways & come to an agreement. He also declared the future was filled with the brightest promise, &

concluded with a warm eulogy to Mr. Hays & his staff, which was much cheered.

Mr. Girdlestone, of Bristol, who recently visited Canada, gave a eulogistic description of the property, but was howled down by the meeting.

An attack upon the board was made by Mr. Baker, of Bristol, who declared there was no truth in the statement of the President regarding the G.T.R. not beginning a rate war, which, according to Mr. Baker, was brought about in the interest of the U. S. allies of the road.

The President denied Mr. Baker's assertion, & apologized to Mr. Girdlestone for the meeting's behavior.

The report of an agreement with the Washash Railroad for access to Detroit was adopted unanimously.

The retiring directors were re-elected as follows: Sir C. Rivers-Wilson, Jos. Price, G. Allen, G. Von Chauvin, J. A. Clutton-Brock, Col. F. Firebrace, A. Hubbard, Sir H. M. Jackson, L. J. Seargeant, A. W. Smithers, Lord Welby of Allington, Sir W. Lawrence Young. The retiring auditors were re-elected as follows: G. B. Newton & F. Whitney, London, Eng.; W. M. Ramsay & T. Davidson, Montreal.

Canadian Pacific Annual Meeting.

The annual meeting of the C.P.R. shareholders was held in the Board Room of the Co.'s offices in Montreal, April 6. The proceedings were just about as they always are at these meetings. President Sir Wm. Van Horne took the chair sharply at noon, flanked by his able lieutenants Messrs. Shaughnessy, Drinkwater & Ogden. Representative capitalists from all over Canada as well as some from England & New York were present, also John Morrison, the venerable critic of the management, his hands full of memoranda, the result of an evidently thorough dissection of the annual report. The President moved the adoption of the report, which was published in our last issue. Mr. Morrison made an even more lengthy & sarcastic criticism of the management than customary, the President joined heartily in the laughter aroused by the blunt jokes made at his expense, put the motion to adopt the report to the meeting, & solemnly declared it carried. Then the usual batch of formal resolutions about the leasing of side lines, etc., was adopted with impressive formality, the balloting for direc-

tors began, & the meeting was practically over.

In moving the adoption of the report, Sir William said: "In submitting the annual report of the directors for your approval, a brief explanation of our difficulties with the American transcontinental lines may not be out of place.

"For a number of years prior to 1894 the C.P. had, by agreement with the transcontinental lines, been allowed certain differential rates on passenger traffic between the Eastern States & Eastern Canada & the Pacific Coast. The principle of differential rates when applied to our case was not a new one. It was adopted a great many years ago as a means of adjusting the difference in conditions between competing lines, & differentials are in use today for this purpose in various parts of America, & even between the Atlantic seaboard & Chicago, where they are accorded to certain of the trunk lines, including the G.T. In 1894 the situation of the C.P. as regards through passenger traffic had considerably improved, & a new agreement was made whereby the C.P. differentials on transcontinental passenger traffic were reduced & were confined in the east to a restricted territory. They applied to all points on the Pacific Coast. At that time there was not much travel to & from Alaska, but a few months back it became apparent that it would soon reach large proportions, & about the opening of the present year, & just as the new stream of travel was setting in, we discovered that the agreement of 1894 was being violated by our competitors. Our agents bought quantities of tickets at the agencies of the Great Northern & Northern Pacific Co.'s, not only at our differential rates, but far below them. The evidence was unquestionable, & the facts as to the broken rates & as to who broke them are not now denied by anybody.

"We called the offending lines to account for their violation of the existing agreement, & they replied that they had decided to no longer consent to differential rates on Pacific Coast traffic, & they asked for a meeting concerning the question. We insisted on their restoration of the rates & terms of the existing agreement as a condition precedent to a meeting. They refused, & we then, after notice, published an open tariff making such rates as the provisions of the law & the interests of the C.P. seemed to require.

"The question at issue at this time is not whether there shall or shall not be differential rates; that question we are prepared to dis-

cuss on its merits when a meeting is held for the purpose of revising the agreement of 1894. The question now is whether, as a condition precedent to a meeting of the lines interested for the purpose of revising this agreement, the rates & conditions ante bellum shall be restored. We have a right to insist on this, but in the interest of peace we have been willing to leave to disinterested arbitration the question as to whether the rates & conditions shall be restored in whole or in part, or not at all, pending a meeting. A resolution providing for such arbitration was offered at the conference of the lines interested at New York three weeks ago. This resolution was supported by the G.T. & all the other parties interested, except the U.S. transcontinental lines, whose representatives asked for time, & subsequently recorded their votes against it. There can, therefore, be no question as to where the responsibility lies for the continuance of the disturbance.

"The decision of the Interstate Commerce Commission at Washington, on suspending the 'long & short haul' clause of the Interstate Commerce Act, has been pointed out as showing that we were in the wrong & our competitors in the right. It shows nothing of the kind. It was a decision on *ex parte* evidence, & clearly stated that the Commission was in possession of evidence of the cutting of rates before our tariff was published, & the decision contains the distinct statement that but for a technicality in connection with the issue of our tariff the action of the Commission on the application of our competitors would have been different. These are the words of the decision in that regard:

"If the Canadian Pacific made these rates with the concurrence of its American connections, observing, as it apparently now does, the rule of the fourth section, an entirely different question would be presented."

"While we are earnestly desirous of peace & willing to go as far as we can towards securing it, the present & future interests of the company must not be overlooked. I am glad to be able to assure our shareholders that up to this time the company's revenues have not suffered through the existing difficulties, & I may point to the fact that during the month of March, over the whole of which the disturbance extended, our increase in earnings was \$541,000.

"I cannot dismiss this subject without referring to the action of the G. T. Co., with which we have so long been at peace, in aiding our American competitors to carry their

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Mention this paper when writing.

reduced rates into our territory. We believe that the cancellation of the North Bay agreement by the G. T. two months ago was the result of an understanding with the American lines, & was intended to place us at a disadvantage in the coming contest; & in view of our past relations & the loss of revenue that must result to the G. T., their action is inexplicable.

"But now let me turn to something more agreeable. We have had a fairly prosperous year, & the financial results, after due provision for all expenses of working & ample maintenance, have enabled the directors to make a distribution of dividends at the rate of 4% for the past year, & to carry forward \$897,088 surplus to the reserve, & so far as we can see this prosperity will continue and increase.

"We have never entered upon a new year with so cheerful an outlook as at present. An analysis of the traffic of the various sections of the main line, the branch lines, & the auxiliary services on the sea, lakes, & rivers, shows that practically no mistakes have been made in the development of the system so far as we have gone. Some things have had to be done ahead of time in order to protect our future, & we have had to wait for a good many vacant spaces on our lines to become productive, but nearly all of these spaces are now yielding revenue, & practically all of our branch lines are self-supporting.

"We have been forced to make lines which we did not, at the time, wish to make, but the results have shown that we have nothing now to regret in this regard. Our heavy movement of passengers westward is not all towards the Klondike by any means. A great many settlers are going to the prairies of the Northwest, from the soil of which gold will the more surely come, & a great many more are going to take farms in British Columbia or to work the big mines of the Kootenay. Our reports tell us that the area of land prepared for seeding in the Northwest is 20% greater than ever before, & development & new industries seem to be the rule everywhere in the vicinity of your lines.

"The directors are asking your authority to expend a considerable amount of money for improvements of various kinds. These expenditures have in the past brought a very handsome return, as is evidenced in part by the reduction in our ratio of working expenses to gross receipts to 57% & the expenditures now proposed will be equally profitable. The directors are also asking your authority to provide adequate rolling stock for the further increase in traffic which they confidently expect, but the money will not be expended unless the need becomes a certainty. The use of extra heavy locomotives which has been made possible by the improvement in the permanent way has had a marked effect on the cost of transportation, & within a short time only the heavier type of locomotives will be used on your principal lines."

MR. MORRISON'S INEVITABLE CRITICISM

was about on the usual lines. He said the annual dividend had been more meagre than the financial results of the year warranted. Instead of carrying over such a large surplus, the directors should have made the last semi-annual dividend 3½ instead of 2½%. He hoped it was not the intention to give the surplus withheld from the common stockholders to the holders of preferential stock. He regarded with pleasure the decrease in the working expenses, which were 3.64% less than last year. He understood that the ratio of expenses to earnings was the lowest in the history of the company.

The President said it was.

Mr. Morrison, continuing, remarked that he thought the report highly optimistic, the position being distinctly boomed on every page. He asked for explanations regarding the item of \$667,000 increased liabilities & the item

of \$3,100,000 surplus earnings. From whom had the former amount been borrowed, & was the latter amount held for interest to be paid to the shareholders?

The President said that the Co. acted as its own banker. The first account asked about was for material for the Crow's Nest Pass Ry., the last amount in question was held for general purposes. Instead of borrowing from the banks the company borrowed from itself.

Mr. Morrison recommended to the management the construction of steamers of a size that they could take on 3,000 tons of freight at Port Arthur, & proceed without transshipment to Liverpool. Small steamers were really the only ones which trade could afford to patronize. The big new express steamers were only fit for high-flyers & railway officials with immense salaries. As things went now-a-days, it was only extravagantly-salaried railway officials who could afford to travel by the passenger steamers, & as they travelled on free passes, it was hard to see where the dividends were to come from. As to the rate war, Mr. Morrison described it as a piece of abject folly. Competing lines should be left severely alone. He hoped that in future the C.P. would pay no attention to what the G.T. or any other railways did.

The President—"I am afraid that then you would not have many dividends, Mr. Morrison."

Mr. Morrison, continuing, said his experience was that conferences of railway men were very much like bankers' associations. A lot of men got together to see who were the greatest fools among themselves.

The report was then adopted, & a number of resolutions passed authorizing the taking over of a number of railway charters in B.C. used in connection with the construction of the Crow's Nest Pass Ry.

In moving one of these resolutions, H. W. Birks, as an English shareholder, & member of the London Stock Exchange, took occasion to congratulate the management upon the fine outlook before the Co. He had just completed a journey of over 7,000 miles over the Co.'s system, & he had been most favorably impressed. He had started a firm believer in the C.P.R.; he was going home sanguine that there was a most prosperous future before the Co. In the words of Dr. Johnson, "The potentialities of wealth are beyond the dream of avarice."

Resolutions were then adopted approving of the purchase of the Columbia & Western Ry. from Rossland to Robson, the construction of the branch line from Slocan Lake to Slocan Jc., the acquisition of the 4-mile siding from St. Stephen, N.B., to milling properties, the proposed double tracking of the line between Montreal & Toronto, & the estimates for the ensuing year, as follows:—

Permanent bridges, ballasting & other improvements of permanent way.....	\$1,399,550 00
Terminal facilities, stations, wharves, grain elevators, additional sidings & fences.....	748,104 00
Rolling stock & other equipment, & for automatic freight train brakes & couplers.....	1,919,875 00
Steamships & Lake & River Steamers.....	375,000 00
Additional Telegraph Lines & Cables.....	252,696 00
	<u>\$4,695,225 00</u>

In connection with the double tracking of the Montreal-Toronto line, Sir William remarked that it is ultimately intended to double track from Port Arthur to Winnipeg, & from Montreal to Farnham, & steps had already been taken in that connection, but the Montreal-Toronto section was regarded as the most urgent.

The following Board of Directors was then

re-elected: Lord Strathcona & Mount Royal, Sir Wm. Van Horne, T. G. Shaughnessy, R. B. Angus, E. B. Osler, M.P., Toronto; Sir Sandford Fleming, Ottawa; Sir G. A. Kirkpatrick, Toronto; G. R. Harris, Boston; W. D. Matthews, Toronto; Hon. D. McInnes, Hamilton; T. Skinner, London, Eng.; J. W. MacKay, New York; Gen. S. Thomas, New York.

At a subsequent meeting of the directors Sir Wm. Van Horne was re-elected President, & T. G. Shaughnessy Vice-President.

The C.P.R. Co's. Report.

RAILROAD GAZETTE, NEW YORK.—To read the annual report of the C.P.R. is something likereading the story of one's youth. That road still has certain immense advantages, in that it lies in a country where people are yet disposed to look upon railroads as important aids to their own prosperity, & where the Populist legislator is still insignificant, & where there are immense & rich regions waiting the invasion of the railroad. Consequently the C. P. is still in the stage of active & vigorous growth. The affairs of this company are going on with great vigor & are in a very promising condition.

MONTREAL GAZETTE.—The C.P.R. Co. is only 18 years old. When its project was published people thought it would never be executed. The system to-day comprises 7,676 miles of road owned & operated, & 2 steamship lines on the Pacific. It has assets representing a value of \$245,000,000, earns \$24,000,000 a year, and is paying dividends where some thought it would not earn axle grease. Its story is one of the most wonderful in the annals of modern business enterprise.

Canadian Pacific Bookkeeping.

The New York Commercial Advertiser recently charged the C.P.R. with manipulating its bookkeeping by charging items of maintenance to capital account, & thus being able to make a better showing than it otherwise could. Sir Wm. Van Horne made the following reply when asked as to the truth of the charge:—"It is hardly worth while to answer a critic whose animus is so apparent. The chief burden of his complaint is that in dealing with our capital account we do not follow the 'enlightened' American practice: but there is no recognized American practice in this regard, & if there were, our preference for the recognized English practice should not give him any concern, our stock being chiefly held in England & Germany & Canada, & not in the U.S. At all events, the 'enlightened' American practice does not prevent occasional swarms of receivers."

Grand Trunk Earnings.

These figures include the G.T. of Canada, the Chicago & G.T., & the Detroit, Grand Haven & Milwaukee Rys.

	1898	1897	Increase.
Jan.....	\$1,916,332	\$1,639,614	\$276,718
Feb.....	1,674,453	1,522,246	152,207
Mar.....	2,048,970	1,803,279	245,691
	<u>\$5,639,755</u>	<u>\$4,965,139</u>	<u>\$674,616</u>

CALGARY & EDMONTON RY.'s net earnings for Jan. were \$17,190.89 against \$4,846.90 in Jan., 1897. In Feb. they were \$18,824.71 against \$3,393.04 in Feb., 1897.

At the annual meeting of the Montford Colonization Ry. Co. in Montreal, Mar. 8, last year's directors were re-elected as follows:— Jos. Brunet, E. D. Porcheron, E. Senecal, G. Chapleau, & J. W. R. Brunet. Jos. Brunet was elected president; E. D. Porcheron, vice-president; A. S. Hamelin, secretary, & D. W. Brunet, assistant secretary-treasurer.

C.P.R. Earnings & Expenses.

The gross earnings, working expenses, net profits & increases over 1897 from Jan. 1, 1898, are as under :

	Earnings.	Expenses.	Net Profits.	Increase.
Jan. ...	\$1,672,372.04	\$1,156,744.45	\$515,627.59	\$142,284.49
Feb. ...	1,494,596.98	1,070,929.62	423,667.36	38,844.28
	\$3,166,969.02	\$2,227,674.07	\$939,294.95	\$181,188.77

The traffic earnings for March, 1898, were \$2,050,000, against \$1,509,000 in Mar., 1897, an increase of \$541,000.

C.P.R. Land Sales.

	Acres.		Amount.	
	1898	1897	1898	1897
Jan.	22,044	9,943	\$73,924.00	\$33,872.00
Feb.	20,530	8,163	66,399.00	27,573.00
Mar.	33,421	8,727	109,010.09	29,080.33

R. V. Rogers has been elected a director of the Kingston & Pembroke Ry., succeeding Sir G. A. Kirkpatrick resigned.

The report of the Wagner Palace Car Co. for the quarter ended Dec. 31 last shows: Gross earnings, \$809,174; expenses, \$609,422; net earnings, \$199,752.

QU'APPELLE, LONG LAKE & SASKATCHEWAN RY. & STEAMBOAT CO.'s net earnings for Jan. were \$3,091.39 as against a loss of \$963.14 in Jan., 1897. In Feb. they were \$89.55 as against a loss of \$31.10 in Feb., 1897.

At a meeting of shareholders of the Columbia & Western Ry., which was recently sold to the C.P.R., held in Montreal, Mar. 11, the following directors were elected: T. G. Shaughnessy, R. B. Angus, Montreal; G. McL. Brown, H. Abbott & R. Marpole, Vancouver. At a subsequent meeting of the directors, T. G. Shaughnessy was elected President & H. C. Oswald, Secretary.

Regarding the report that the European bond-holders of the C.P.R. expressed dissatisfaction over the position taken by the management in the rate war, Vice-President Shaughnessy recently said: "There is absolutely no foundation for such a report. Bond-holders in England & Europe have expressed no dissatisfaction with our management of the C.P.R., & our position has received the support of such people. The report to the contrary is simply an American newspaper story."

EQUIPMENT.

Grand Trunk Locomotives.

F. W. Morse, Superintendent of Motive Power, writes THE RAILWAY & SHIPPING WORLD: "The G. T. R. system is now receiving from the Baldwin Locomotive Works 6 mogul locomotives & 4 10-wheelers, & a duplicate order from the Schenectady Locomotive Works. At present we are not building in Montreal, but may do so before the end of the year."

The 10-wheel passenger engines are illustrated on page 33. In designing these new classes of locomotives the intention has been to combine the best features of a number of recent designs; & the details have received unusual attention, both from Superintendent Morse & from the manufacturers, & such parts have been made especially substantial, while the passenger & freight locomotives are designed for particular classes of service, yet the parts which will require repairs & renewals are the same for both engines, which undoubtedly will reduce considerably the cost of maintenance. The passenger engines have a greater total weight than the freight engines of 14,500 lbs., but less weight on the drivers by 3,000 lbs.; the passenger engines also have larger driving wheels & a longer boiler, the latter resulting in a slightly greater heating surface for the 10-wheel locomotives. The diameter of the boiler & the dimensions of the fireboxes are the same for both classes.

The following is a list of the dimensions of both classes & of the special equipment of the engines built at the Baldwin Works:

	Ten-wheel Pass.	Mogul.
Builder's class & number	10.34 D. 326 to 329	8.34 D. 15 to 20
Number	992 to 995	901 to 906
Name of builder	*Baldwin Locomotive Works.	
Name of operating road	*Grand Trunk.	
Gauge	4 ft. 8½ in.	4 ft. 8½ in.
Kind of fuel to be used	*Bituminous coal.	
Weight on drivers, lb.	117,000	120,000
" truck wheels, lbs.	37,500	20,000
" total, lbs.	154,500	140,000
Wheel base, total, of engine	26 ft. 11 in.	24 ft. 1 in.
Wheel base, driving engine and tender	15 ft. 8 in.	15 ft. 8 in.
Length, total engine and tender	53 ft. 9 in.	50 ft. 11 in.
Length, total engine and tender	42 ft. 8 in.	39 ft. 10 in.
Height, center of boiler above rail	64 ft. 11 in.	62 ft. 1 in.
Height of stack above rail	8 ft. 9½ in.	8 ft. 4½ in.
Heating surface fire-box, sq. ft.	14 ft. 7½ in.	14 ft. 2½ in.
	189	188.1

Heating surface tubes, sq. ft.	2,272	1,803
Heating surface, total sq. ft.	2,461	1,991.1
Grate area	33.43	33.43

WHEELS AND JOURNALS.

Diameter of driving wheels	72 in.	62 in.
Truck wheels, dia.	37 in.	37 in.
Journals, driving axle, size	9½ in. x 12 in.	9½ in. x 12 in.
Journals, truck, size	6½ in. x 10½ in.	6½ in. x 10½ in.
Main crank pin	6½ in. x 6 in.	6½ in. x 6 in.
Parallel rod pin	5½ in. x 4 in.	5½ in. x 4 in.
Crosshead pin	4 in. x 3½ in.	4 in. x 3½ in.

CYLINDERS.

Cylinder diameter	20 in.	20 in.
Piston stroke	26 in.	26 in.
" rod diam.	3¼ in.	3¼ in.
Main rod, length, cen. to cen.	10 ft. 8¼ in.	7 ft. 7¼ in.
Steam ports, length	20 in.	20 in.
" " width	1½ in.	1½ in.
Exhaust ports, length	20 in.	20 in.
" " width	3 in.	3 in.
Bridge, width	1½ in.	1½ in.
Valves, kind of	*Balanced.	
" greatest travel	5½ in.	5½ in.
" outside lap	¾ in.	¾ in.
" inside lap	0	0
" lead in full gear	¾ in.	¾ in.

BOILERS.

Boiler, type of	*Extended wagon top.	
Boiler, working steam pressure	200 lbs.	200 lbs.
Boiler, material of barrel	*Steel.	
Boiler, thickness of material in barrel	21-32	21-32
Boiler, diam. of barrel at front sheet	62 in.	62 in.
Boiler seams, kind of	*Butt jointed, double covering strips, sextuple riveted.	
Boiler seams, circumferential	*Double riveted.	
Thickness of tube sheets	¾ in. front, ½ in. back.	¾ front, ½ back.
Thickness of crown sheet	¾ in.	¾ in.
Crown stayed with	*Radial stays.	
Dome, diam.	31½ in.	31½ in.
Tubes, number	291	291
Tubes, material	*Lap welded iron.	
Tubes, outside diam.	2 in.	2 in.
Tubes, length over tube sheets	15 ft.	11 ft. 11 in.
Firebox, length	120 in.	120 in.
" width	40½ in.	40½ in.
" depth	76¾ f. 65 b.	73¾ f. 65 b.
" material	*Steel.	
" thickness of sheets	Crown, ¾ in. Tube, ½ in. Sides, 5-16 in. Back, ¾ in.	Crown, ¾ in. Tube, ½ in. Sides, 5-16 in. Back, ¾ in.
Firebox, brick arch	*Yes.	
" water space, width front	4 in.	4 in.
Firebox, water space, width sides	3½ in.	3½ in.
Firebox, water space, width back	4 in.	4 in.
Grate, kind of	*Rocking.	

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MOHAIR PLUSHES FOR RAILWAY CARRIAGES A SPECIALTY.

SOLE AGENTS FOR CANADA:

H. L. SMYTH & CO,

206 McGill Street, Montreal
33 Melinda Street, Toronto

Smokebox, diameter..	65 1-2 in.	65 1-2 in.
Smokebox, length from tube sheet to end....	5 ft. 10 in.	5 ft. 10 in.
OTHER PARTS.		
Exhaust nozzle.....	*Fixed, single.	
" " " " " " " "	5 in., 5 1/4 in. and 5 1-2 in.	5 in., 5 1/4 in. and 5 1-2 in.
Exhaust nozzle, distance of tip above cen. of boiler.....	6 1-2 in.	6 1-2 in.
Netting " " " "	*Wire.	
" size of mesh..	3 1-2 x 3 1-2	3 1-2 x 3 1-2
Smokestack (straight), diam.....	15 1/4 in.	15 1/4 in.
Smoke stack, height above smokebox....	37 in.	37 in.
TENDER.		
Type.....	8-wheel	8-wheel.
Tank, capacity for water.....	4,500	4,500
Coal capacity.....	10 tons.	10 tons.
Kind of material in tank	*Steel.	
Thickness of tank sheets.....	1/4 in. & 5-16 in.	1/4 in. & 5-16 in.
Type of frame.....	10 in channel steel.	10 in channel steel.
" " " " " "	*Arch bar.	
Truck.....	*Rigid center.	
Type of truck spring..	*Elliptic.	
Diam. of truck wheels.	43 in.	33 in.
Diam. & length of journals.....	5 in. x 9 in.	5 in. x 9 in.
Distance between centers of journals.....	76 in.	76 in.
Diam. of wheel fit on axle.....	6 3/4 in.	6 3/4 in.
Diam. of center of axle	5 3/8 in.	5 3/8 in.
Type of trunk bolster.	*Wood plated with iron.	
" " " " " "	*Channel iron laid flat.	
Length of tender frame over bumpers.....	23 ft.	
Length of tank.....	21 ft. 9 in.	21 ft. 9 in.
Width of tank.....	9 ft.	9 ft.
Height of tank not including collar.....	4 ft. 5 in.	4 ft. 5 in.
Height of tank over collar.....	5 ft. 11 in.	5 ft. 11 in.
Type of drawhead....	*M.C.B. coupler.	

* These items are the same for both classes of engines.

Acetylene Gas for Trains.

A. Holland, Ottawa, Ont., writes: The Pontiac Pacific Junction Ry. express train has been successfully lighted with acetylene gas. The train consists of the ordinary postal, express & baggage, 2nd & 1st class cars. The gas is generated by a 30-light acetylene gas machine placed in the baggage car. Each car is regularly piped & supplied with six 50-candle power burners. The pipes are connected with rubber hose between cars, with hose cocks. It is a through express, requiring no shunting of cars. The train has been running a month with the new light, & the management is so satisfied with the experiment that it proposes to light all its trains & stations with it. The new illuminant has had a severe test. The vibration of the car does not affect the steadiness of the light. Only once were the lights extinguished, & that was by the impact of a train against a huge snow-drift almost as solid as a sand-bar. They were relighted at once & caused no inconvenience beyond the temporary darkness, & for a few moments the smell of escaping gas. Frost 20° below zero had

no effect on the gas passing through the rubber connections between cars. Am I right in claiming for the Pontiac Pacific Junction the honor of being the first train in America to be lighted with acetylene gas?

P. W. Resseman, General Superintendent Pontiac Pacific Junction Ry., writes: Some months ago, in conversation with the local agents, Holland Bros., of Ottawa, I suggested that acetylene gas would be a splendid lighting element for railway cars if it could be utilized without danger. Andrew Holland asserted positively that he could light the cars safely & brilliantly with one of the generators used for house lighting. The problems to be met were:

The effect of intense frost on the gas machine & on the gas when piped between cars with rubber hose, & when the train was running 30 or 40 miles an hour with the mercury away below zero.

The effect of vibration of cars on rough track on the steadiness of light.

The danger of gas escaping from the generator by the agitation of the water in the gas tank.

The slopping over of water from the gas tank on the floor of the car, & in consequence smell of escaping gas.

Shortly after this conversation I placed a train at Holland Bros.' disposal for equipment. A 20-light generator was installed in the baggage car. The cars were temporarily piped for gas fixtures, & the first trial decided that 3 of the expected difficulties amounted to nothing in actual work—the tank & the gas were not affected by the frost; the lights were not affected by the vibration of the cars, & the illumination was more brilliant than on any train I have ever seen. I believe it to be the most brilliant light used to-day on any train in Canada or the U.S.

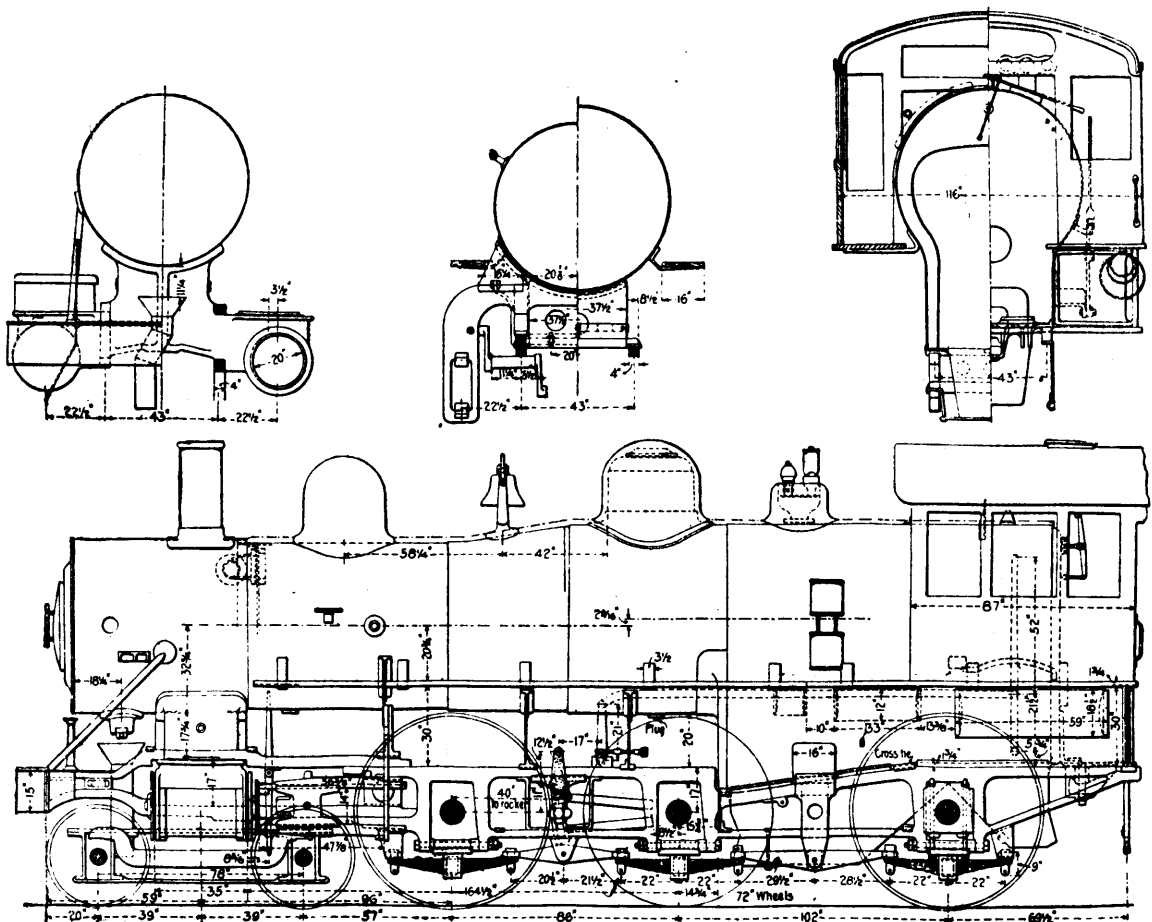
On through mixed express, as we run on

this line, with all the drawbacks of shunting, etc., causing slopping over from the water tank, etc., during our first experiments, the light is so far ahead of anything that we have yet seen in economy & convenience that we will never revert to the old system of lighting again. But where a train has to be broken occasionally & cars shunted, it can readily be seen that such a system could not be worked. Here, again, Holland Bros. came to our assistance, & have installed a plant in our coaches that requires less carbide & avoids slopping & smell from gas, & is positively safe, because the gas is only generated in such small quantities, & under such low pressure, that the explosion of the amount generated at any one time (if such a thing could be) would not break a pane of glass. If the cars were to turn over the lights would go out, & the gas would simply pass away harmlessly into the air, as no fire could possibly result from it.

The plant is installed in the toilet compartment. It occupies a floor space of about 14 x 26 in. These generators have a capacity for 6 lights of 50 candle power each. The charging & attendance are so simple that an ordinary chore boy attends to ours without difficulty or danger. We propose to equip all our cars with the acetylene gas plant, as being the cheapest, safest & most brilliant illuminant for railroads yet discovered.

The carbide we use costs \$60 a ton f.o.b. at the factory, & the lighting of one of our coaches with this light enables the passengers to read their evening papers from any seat in the car, & costs but 25c. for a 6 hours' run.

Holland Bros. state that on Mar. 15 a test of a locomotive headlight, lighted with acetylene gas, was made on the Canada Atlantic Ry., & was highly satisfactory, the light being steady & very brilliant. The apparatus for generating the gas is placed in the cab of the engine so as to be under the immediate sup-



GRAND TRUNK RAILWAY TEN-WHEEL PASSENGER LOCOMOTIVE.

revision of the engineer, who, by replenishing the lamp, can maintain a continuous light for any number of hours.

Canadian Pacific Locomotives.

The C.P.R. Co. is adding about 50 compound consolidation locomotives to its equipment, 27 of which are being fully built at the Co.'s works, De Lorimer Avenue, Montreal, under the supervision of Mechanical Superintendent Atkinson. It is estimated these will haul 25 to 30% more load than the 10-wheelers.

An order has been placed with the Baldwin Locomotive Works, Philadelphia, Pa., for 10 complete & 10 partially constructed Vauclain system compound locomotives of the following general dimensions:

Gauge, 4' 8½".
 Type, Compound Ten-wheeled.
 Cylinders, { H.P. 13½" } x 24".
 { L.P. 23" }
 Valve, balanced piston.
 Boiler diameter, 56".
 Thickness of sheets, 11/16" & 3/4".
 Working pressure, 200 lbs.
 Fuel, soft coal.
 Firebox material, steel.
 Firebox, length, 36½".
 " width, 42½".
 " depth, front 62½, back 52½".
 Thickness of sheets, sides 3/8", back 3/8", crown 1/2",
 tubes 1/2".
 Tubes, number 223.
 " diameter, 2".
 " length, 12' 7 5/8".
 Heating surface, firebox, 119.51 sq. ft.
 " tubes, 1,494.99 "
 " total, 1,614.50 "
 Grate area, 28.51 sq. ft.
 Driving wheels, outside diameter, 62".
 " centre " 56".
 " journals, 8" x 8½".
 Truck wheels, 28" diameter.
 " journals, 5" x 8".
 Weight on drivers, about 96,000 lbs.
 " truck, " 32,000 "
 " total engine, " 128,000 "
 " & tender, 208,000 lbs.
 Wheelbase, driving, 13' 5".
 " total engine, 23' 11¼".
 " & tender, 48' 3½".
 Tender truck wheels, diameter, 33".
 " journals, 4¼" x 8".
 Tank capacity, 32,000 Imperial gallons.
 Weight, empty, about 35,000 lbs.
 Service, passenger & freight.

Mr. Atkinson writes us that the partially constructed locomotives will be completed at the C.P.R.'s Montreal shops. They are being supplied without cabs, boiler mountings, boiler covering, sand boxes, bells, stacks, headlights, smokebox fronts, smokebox nettings, tubes, pilots, ashpans, grates & tenders complete, & are virtually boilers, frames, cylinders, wheels & motion.

The C.P.R. Co. recently placed an order with the Richmond Locomotive Works which calls for Richmond compound engines weighing in working order 140,000 lbs., with cylinders 20¼ & 32 ins. by 26 ins. The boiler will be of the extended wagon-top type, (Belpaire firebox) 62 ins. in diameter at the smallest ring, made for a working pressure of 200 lbs. The firebox will be 9 ft. 1 7/8 ins. long, 3 ft. 6 7/8 ins. wide, 5 ft. 4 1/2 ins. deep at front & 5 ft. 1/2 in. at back.

Car Lighting by Electricity.

The C.P.R. has equipped the sleeping car Winchester, which runs between Toronto & Montreal, with a system of electric light generated from the axle. The C.P.R. has been experimenting with various systems of lighting for some time, with a view of determining the one best adapted for use in the car service. The results procured from the apparatus used on the Winchester are said to be very promising. Although the current is generated from the car axle, there is no flickering or irregularity in the light. This regularity is brought about by the use of a system of storage, which maintains a regular current, no matter what the speed of the car may be, and stoppages are also provided for in this way. One great advantage in this electrical system of lighting lies in the fact that the lamps can be brought into immediate requisition. On the transcontinental line, for instance, where there are numbers of snowsheds & tunnels to be passed through, the process of lighting oil lamps is too slow to meet the desideratum of having instant illumination. With the electric system, on the other hand, an employe need only press a button when the train is about to plunge into the darkness of a tunnel, to set all the lamps aglow. The Winchester is the first car in Canada to be honored with the new electric system.

A Westinghouse Victory.

On Jan. 4 the Circuit Court of the U.S., held in Utica, N.Y., gave an important decision in the case of The Westinghouse Air Brake Co. vs. The Buffalo, Rochester & Pittsburgh Ry. Co. The Court issued a decree for an injunction against the latter Co., requiring infringing air-brake apparatus furnished by the New York Air Brake Co. to be removed from the cars of that road. During

1892 public competitive trials of the New York Air Brake Co.'s apparatus & the Westinghouse Air Brake Co.'s were made on three different railways. Each of these trials, the Westinghouse Co. states, showed the inferiority of the New York air-brake, & the Westinghouse Co. notified prospective purchasers that the New York apparatus would prove inferior & that it infringed the Westinghouse patent rights, & that a suit against the company would be pressed to a conclusion. After the question of infringement had been fully decided in the Westinghouse Co.'s favor, this Co. notified those who had purchased the New York apparatus, & made a proposition to replace it with its own. In spite of this owners of the New York brakes persisted in their use, & the suit followed, terminating in favor of the Westinghouse Co.

Equipment Notes.

The C.P.R. Co. works at Perth, Ont., are turning out 8 to 10 freight cars per day.

It is said the Pullman Co. has renewed its contract with the Union Pacific for 15 years.

Rhodes, Curry & Co., Ltd., Amherst, N.S., is building 50 box cars for the Intercolonial Ry.

The Dominion Atlantic Ry. has ordered a passenger engine from the Baldwin Locomotive Works.

The C.P.R. has given an order to the Canadian Locomotive & Engine Co., Kingston, to build 15 tanks.

The C.P.R. is improving a number of its stock cars, especially for the cattle trade. They are being made wider & longer.

Rhodes, Curry & Co., Ltd., Amherst, N.S., is building 200 coal cars for the Dominion Coal Co., & 20 flats for the Canada Eastern.

The Montreal Star of Mar. 28 says that a Montrealer went to Kingston to negotiate for the purchase of the Canadian Locomotive & Engine Works for a syndicate.

The company working the Southern Italian Railway has discarded the Hardy brake & will substitute the Westinghouse brake. The change is to be made first on 140 locomotives, 158 passenger cars & 45 baggage cars.

The Spokane Falls & Northern Ry. has ordered from the Illinois Car & Equipment Co., 25 ore cars for April delivery, to have 780 cubic ft. capacity, & to be fitted with Westinghouse brakes.

F. B. POLSON

J. B. MILLER

The POLSON IRON WORKS

TORONTO, - - CANADA.

STEEL BOILERS

The Best Equipped Boiler and Engine Works

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We Manufacture

*The Brown Automatic Engine
 Single, Compound and Triple Marine Engines
 Hoisting and Mining Engines
 Steel Steam Vessels of every description
 Steam Yachts and Launches*

..... Get Our Prices Before Ordering.

Esplanade East, Foot of Sherbourne Street, -:- TORONTO.

The C.P.R. intend to make a considerable increase of power at Field, B.C., to meet the growing traffic over the Big Hill. Three new engines will be placed at Field for this purpose & a new & commodious engine house is to be built on the flat at the mile post just west of Field.

The C.P.R. is arranging for rolling stock on the Crow's Nest Pass Ry. Eight engines are being built, also ballast cars with self-couplers & air brakes. The engines are not of the heaviest type, for the grade is only 1%. This rolling stock will be ready within a month or so.

The Canadian Locomotive & Engine Co., Kingston, Ont., is building 3 locomotives for the Intercolonial Ry. of the 10-wheel type, one a Vauclain compound, & 2 simple; weight, in working order, about 132,000 lbs. Also a saddle tank, 6-wheel locomotive for B.C., connected weight about 60,000 lbs.

In answer to a question in the House of Commons recently, the Minister of Railways said that since Mar. 1, three dining cars had been placed on the Intercolonial Ry. They cost \$7,321, & their equipment \$2,528. From another source it is learned that at one end of each car there will be a lunch room, where lunches may be obtained at a reasonable cost.

The G.T.R. is adding largely to its equipment. In addition to the locomotives, referred to elsewhere, an order has been given to the Pullman Co., Chicago, for 20 1st-class passenger cars. The freight equipment is to be increased to the extent of 1,000 cars, half of which will be built at the Co.'s shops at Montreal & the rest at Detroit.

C.P.R. agents east of Fort William have been notified by Manager Tait that the instructions regarding sealing of cars reading "When a car has been unloaded it must be stripped of all seals," are not being observed. Agents must see these instructions are carried out, that new leads are used for sealing, & that in no case old leads are pressed over.

The first through train de luxe to be despatched direct to Tomask over the Siberian line, which in a few years will run to Port Arthur, is finished. It is composed of 4 splendid cars built at Moscow, an open saloon dining car, bathroom, library, telephones, electric lighting, refrigerators, ventilating apparatus, piano, chess and means for gymnastic exercise. Nothing like it has ever been seen on a Russian railway.

Manager Tait, of the C.P.R. Eastern Lines, has issued the following circular:—Many of our employes use the term "Trojan bars" or "Trojan couplers" for all kinds of vertical plane (M. C. B.) automatic couplers. A vertical plane automatic coupler should always be described by its recognized name; as for instance: Trojan—Gould—Hien—Washburn—Tower—Janney, etc. Vertical plane couplers in general should be called "M. C. B. couplers."

Connecting lines have been notified by Manager Tait, of the C.P.R. Eastern Lines, that after April 1, 1898, that Co. will not accept any car to be hauled in passenger trains on lines east of Fort William unless it is equipped with M.C.B. vertical plane couplers, steel tyred wheels & Westinghouse automatic air-brake & train signal, or air-brake & train signal interchangeable therewith respectively, & during cold weather, unless it is equipped for steam heating.

The Canada Atlantic Ry. has placed an order with the Baldwin Locomotive Works for 16 freight locomotives. Ten will be 10-wheel engines of the Vauclain compound type with 14 & 24x26 in. cylinders, 56 in. (outside diam.) driving wheels, & weigh in working order about 145,000 lbs., with about 116,000 lbs. on the driving wheels. The tender capacity will be 4,000 gals. The remaining 6 will also be

Vauclain compounds of the consolidation type, with 15½ & 26x36 in. cylinders, & will weigh in working order about 173,000 lbs., with about 156,000 lbs. on the driving wheels. The tender capacity will be 4,500 gals.

The C.P.R. is adding about 70 sleeping & passenger cars to its equipment, most of which are being built at the Co's works at Montreal & Perth, Ont., & the others by the Crossen Co., Cobourg, Ont. These cars will all have standard platforms & wide end vestibules, which practically provides a guarantee against telescoping. Krupp wheels will be used. They will be fitted with inside Westinghouse air brakes, which were applied for the first time on the C.P.R. about 18 months ago & have given such excellent results that they have since become the standard on the Pennsylvania, Erie & other U.S. roads. Their chief advantages are stopping 10 to 15% quicker & the reduction of jolting to a minimum.

The Minneapolis, St. Paul & Sault Ste. Marie Ry. is getting five 10-wheel compound engines from the Schenectady Locomotive Works. These engines were designed by E. A. Williams, Mechanical Superintendent, & T. A. Foque, Mechanical Engineer of the road. The engines will weigh in working order, without tender, about 130,000 lbs. The boilers are to be of the radial stay type, 55 ins. in diameter at the smallest ring & made for a working pressure of 200 lbs. The fireboxes will be 96 3-16 ins. long, 43¾ ins. wide, 70½ ins. deep in front, & 58½ ins. deep at the back. They will have 245 two-inch tubes. Total heating surface will be 1,902.2 sq. ft., of which 1,763.85 sq. ft. are in the tubes & 138.35 sq. ft. in the fireboxes. The grate surface will be 27.63 sq. ft. The tender capacity will be 4,500 gals. of water & 7 tons of coal.

Car Building at Cobourg.

The Crossen Car Mfg. Co. writes us that it is building the following cars:—For the C.P.R., 20 tourist cars with Pullman wide vestibules & standard steel platforms, automatic couplers, hollow brake beams, steam heating. Body of car, smoking room & kitchen, 14 berths, 28 seats upholstered in corduroy. Kitchen contains improved wrought iron range. The women & men's toilets are furnished with Tennessee marble washstands & overhead tanks. The berths are supplied with headboards, curtain rods, brackets, etc. Each car is lighted with 5 double-centre lamps besides the necessary side-bracket lamps. Double windows, with upper lights of bevelled plate glass, monitor lights, flowered glass. The cars are equipped with Westinghouse quick action air-brakes, & air signals & Krupp's 40-in. steel wheels. Exterior finished in cherry & varnished, & interior in birch-stained mahogany. The interior trimmings are the latest design, finished in Persian brass.

For the Esquimalt & Nanaimo Ry., 10 Lehigh Valley Railway hopper gondola coal cars with C.P.R. standard trucks, 60,000 lbs. capacity.

For the Intercolonial Ry., fifty 33 ft. box freight cars, 40,000 lbs. capacity, with Westinghouse air-brakes, automatic couplers & Intercolonial Ry. standard trucks.

For the Canadian Copper Co., Cleveland, Ohio, ten 33 ft. platform cars, 40,000 lbs. capacity, C.P.R. standard pattern, with automatic couplers. 10 ore dump cars, 8 tons capacity.

THE WESTINGHOUSE MANUFACTURING CO., Hamilton:—"We have received the first issue of THE RAILWAY & SHIPPING WORLD, & beg to say that our advertisement, & also the article on our works are entirely satisfactory; in fact, we think that as a whole the first issue does you considerable credit."

OPERATING.

Grand Trunk Time Inspection.

General Superintendent McGuigan has issued the following circular, dated April 1:—To insure improved efficiency in train service & provide an additional safeguard against accident, affording greater security to life & property, this Co. will inaugurate a system or watch inspection, effective May 1, 1898, & employes designated below are required, on & after that date, to submit their watches for quarterly examination & for weekly comparison with standard time to the various inspectors, who have been appointed for the purpose, & will be under the general supervision of Prof. C. H. McLeod, of McGill University, Montreal, who has been appointed Superintendent of Time Service & Watch Inspection, with office at Montreal. All train & engine-men must submit their watches to local inspectors as required by this rule.

The minimum standard of excellence adopted by this Co., for watches, is of a grade equal to what is known among American movements as 17 jewel, patent regulator, adjusted to temperature, the variations of which must not exceed 30 seconds a week.

Each employe designated will apply immediately, & every 3 months hereafter, to his superior officer for a blank certificate & order for examination, which he must take, together with his watch, to the local inspector, who will, if the watch is satisfactory, sign the certificate & forward the same to the officer under whom the person is employed, free of charge to such employe. If the watch is below the required standard it will be rejected, & the officer in charge promptly advised. Any watch so rejected cannot be used in service, nor passed upon by another inspector except upon order of the Superintendent of Time Service. Employes, where no inspector is located, may send their watches, together with blank certificate, to the nearest local inspector.

In addition to the quarterly examination, trainmen & enginemen must submit their watches to local inspectors weekly for comparison with standard time, as must also other employes who have the opportunity for doing so, that a record of the rating of their watches may be made. Employes in the train service who fail to submit their watches for weekly comparison & quarterly inspection, in accordance with the terms of this circular, will be considered as having violated the rules of the service, for which satisfactory reason must be given.

When watches need cleaning or repairing they may be left with the inspector if the owner so desires, or they may be taken to such watchmaker as the owner may select; but the watch carried in the meantime, & his own watch, after the same has been repaired, must be submitted to the Co's Inspector for examination & approval before such watch can be carried in service.

When watches are left with the inspectors of the Co. to be cleaned or repaired, a standard watch will be loaned to the employe until his own is returned.

Employes who so desire can obtain standard watches, guaranteed to give the required performance, from the inspectors on monthly payments, as may be agreed upon, not, however, exceeding 4 in number, or \$20, the amount of such monthly payments to be deducted from the pay-roll.

The officers having direct charge of employes, who are subject to the above provisions, will see that certificates of the quarterly examination of watches are filed with them for watches of employes under their charge, who are subject to the rules of watch inspection, & such officers in all departments will be held responsible for the collection & filing of watch certificates.

Trainmasters must require conductors & brakemen, & master mechanics must require engineers, to turn in, regularly, certificates of weekly comparison of their watches, & will enter in records to be kept for the purpose the dates when such certificates are received.

Employees whose watches do not conform to the required standard will be given until June 1, 1898, to provide themselves with standard watches, as on & after that date all employees subject to the provisions of this circular must be provided with standard watches & the quarterly certificates to that effect must be in the hands of the officers to whom they report.

The hearty co-operation of employees in making the operation of the system successful is earnestly enjoined. The desired results can only be obtained by observing carefully the rules as to inspection & comparison, & refraining from any attempt to set or regulate their watches themselves.

C.P.R. Lubricating Oil Rules.

Manager Tait, of the C.P.R. Eastern Lines, has issued a circular stating that enginemen will be expected, by carrying out the instructions which have been given as to the use of lubricating oils & by the exercise of care & good judgment, to achieve the following results:

EIGHT WHEEL ENGINES, EXCEPT MOGULS.

Road, valve per 140 miles run, 1 pint; engine per 40 miles run 1 pint.

Ballast, per 10 hours:—valve, 1 pint; engine, 3 pints.

Other work, per 10 hours:—valve, $\frac{3}{4}$ pint; engine, $2\frac{1}{2}$ pints.

Switching, per 12 hours:—valve, $\frac{3}{4}$ pint; engine, $1\frac{1}{2}$ pint.

TEN WHEEL & MOGUL ENGINES.

Road, valve per 120 miles run:—1 pint; engine per 35 miles run, 1 pint.

Ballast, per 10 hours:—valve, $1\frac{1}{4}$ pint; engine, 4 pints.

Other works, per 10 hours:—valve, 1 pint; engine, 3 pints.

Switching, per 12 hours:—valve, 1 pint; engine, 2 pints.

Many eloquent tributes have, indeed, been tendered from time to time to the vast changes in Canadian life which can be justly traced to the construction of the great trans-continental railway, the Canadian Pacific. But never, perhaps, has the truth been more aptly or more forcibly put than by C. D. G. Roberts, in his new history of Canada, in two sentences, which abundantly merit quotation: "All through the mountains, all along the prairies, are strung little settlements growing into villages, villages blossoming into towns, so filled with sanguine life that they sparkle like jewels on the thread of steel, & so the roaring trains of the great highway may be likened to gigantic shuttles darting backwards & forwards across the continent, & weaving into the warp of this northern land the bright pattern of national life."

OFFICIAL RAILWAY CIRCULARS.

Canada Atlantic & Ottawa, Arnprior & Parry Sound.

CANADA ATLANTIC RAILWAY & CANADA ATLANTIC TRANSIT CO., OTTAWA, Mar. 23. The following appointments take effect April 1: J. T. Rose, North-Western Agent, Duluth Minn., office at 609 Board of Trade; H. L. Moore, Agent, Minneapolis & St. Paul, Minn., office at Corn Exchange, Minneapolis; C. D. Howard, Agent, Milwaukee, Wis., office at Room 38, Mack Block. C. J. Smith, General Freight Agent. Approved, E. J. Chamberlin, General Manager.

CANADA ATLANTIC, & OTTAWA, ARNPRIOR & PARRY SOUND RYS., & CANADA ATLANTIC TRANSIT CO., OTTAWA, Mar. 31. M. A. Overend is appointed Foreign Freight Agent of these companies; office at 115 Board of Trade Building, Montreal. C. J. Smith, General Traffic Manager.

CANADA ATLANTIC & OTTAWA, ARNPRIOR & PARRY SOUND RYS., & CANADA ATLANTIC TRANSIT CO., OTTAWA, Mar. 31. W. P. Hinton having been appointed Assistant General Freight Agent, will have direct charge of the local freight traffic of these companies, the tracing & care of traffic in transit, freight claims, & such other duties as may be assigned to him by this office. Agents & others will report to him on matters pertaining thereto. All correspondence relative to the Canada Atlantic Fast Freight Line should be addressed to the Line Manager, as formerly. C. J. Smith, General Traffic Manager.

CANADA ATLANTIC & OTTAWA, ARNPRIOR & PARRY SOUND RYS. The following circulars were issued by E. J. Chamberlin, General Manager, dated Ottawa, Mar. 31: M. Donaldson, formerly Superintendent, is appointed General Superintendent, headquarters Ottawa, Ont.; J. Ogilvie, formerly Locomotive Foreman, is appointed Superintendent of Motive Power, & will have charge of maintenance of motive power & other matters pertaining to that department, reporting direct to the General Superintendent, headquarters, Ottawa; W. H. Smith is appointed Boat Line Auditor, headquarters Depot Harbor, Ont. He will also act as Agent & have charge of operation & accounts in connection with warehouses & elevators at Depot Harbor; C. J. Smith, formerly General Freight & Passenger Agent, is appointed General Traffic Manager, headquarters Ottawa. J. E. Walsh is appointed Assistant General Passenger Agent. Headquarters, Ottawa. W. P. Hinton is appointed Assistant General Freight Agent. Headquarters, Ottawa. On & after this date the Chief Engineer will have the direct supervision of track, bridges, trestles & docks. Roadmasters will respect his orders accordingly. Headquarters, Ottawa.

CANADA ATLANTIC & OTTAWA, ARNPRIOR & PARRY SOUND RYS., Mar. 31. J. E. Walsh having been appointed Assistant General Pas-

senger Agent, will have direct charge of the passenger business of these companies. Agents & others will report to him on matters pertaining thereto. The Baggage Department is assigned to his office. E. J. Smith, General Traffic Manager.

Canadian Government System.

As a good deal of doubt appears to exist as to the powers, &c., of the General Traffic Manager we give here a copy of the circular announcing his appointment:

MONCTON, N.B., Nov. 22, 1897. A. H. Harris is appointed General Traffic Manager of the Canadian Government System of Railways, with headquarters at Montreal, to take effect Nov. 24, 1897. The General Freight Agent & General Passenger Agent will report to & receive their instructions from him. D. Pottinger, General Manager.

In sending us the circular, the Secretary of the Department of Railways & Canals wrote: "I am to say that Mr. Harris is to report to the General Manager."

In the House of Commons, April 6, answering Sir Hibbert Tupper, Mr. Blair said Mr. Harris was not independent of the General Manager. He could not fix rates without first obtaining the sanction of the Minister of Railways.

PERSONAL MENTION.

Lady VanHorne & Miss Adeline VanHorne are sojourning at Pasadena, Cal.

Jas. McMullen, of Galt, has been appointed Secretary to Chief Solicitor Clarke, of the Canadian Pacific.

C. W. Graves, District Passenger Agent, Wisconsin Central, Toronto, has removed his office to 80 Yonge St.

E. A. Seeley has been appointed General Agent of the Oregon Railroad & Navigation Co. at Juneau, Alaska.

Chas. Newman, car inspector for the Grand Trunk at Niagara Falls, lost his son in the Maine disaster at Havana.

G. McL. Brown, Executive Agent of the C.P.R. in B.C., has decided upon making Victoria his headquarters.

Jos. De Gurse, Land Surveyor & Civil Engineer for the L. E. & D. R. Ry., died Mar. 23, at Windsor, Ont.

C. W. Mott, General Immigration Agent of the Northern Pacific, having resigned, the position has been abolished.

Bert Belch, formerly N.P. ticket agent in Winnipeg, has been given a position in the C.P.R. Vancouver ticket office.

Mrs. M. L. Flynn, wife of the Master Mechanic of the Michigan Central, died at St. Thomas, Ont., Mar. 16, of paralysis.

L. J. Seargeant, formerly General Manager of the G.T.R., presided at the dinner of the Canada Club in London, Eng., April 6.

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TORONTO.

Steel Elevator at Fort William.

Although the C.P.R. Co. has 3 grain elevators, with an aggregate capacity of 4,000,000 bushels at Fort William, the great development of Manitoba & the N.W.T. has rendered necessary still further storage, & last season the company decided on a new departure, to add still further capacity, but to construct it of steel instead of wood. The illustration on this page shows the new elevator as it will appear when completed to the full capacity of 3,000,000 bushels. It is situated on the bank of the Kaministiquia River, about 1 1/4 miles west of Fort William Station & of the wooden elevators. The advantage to the C.P.R. in locating this plant on the bank of the river is seen in the trifling cost of constructing the wharfage necessary for it, the piling being all in now, and the whole cost of the wharf being but a small fraction of what a wharf or dock on the lake would cost.

The high building shown in the illustration is constructed of structural steel, with 1/4 in.

The boiler & engine-house is constructed of Lake Superior stone, with steel truss roof, & contains one 400-h. p. condensing engine, 3 boilers, 66 in. x 16 ft., with all the necessary pumps & fixtures. The power is transmitted from engine to steel house by a 400-h. p. manilla rope drive.

Tunnels constructed of stone under the tanks contain the belt conveyors for transferring the grain from tanks to steel building, where the grain is weighed & shipped to vessels by means of the conveyors in the steel galleries over the tanks; dock spouts being attached to end of galleries for receiving the grain from the belt conveyors.

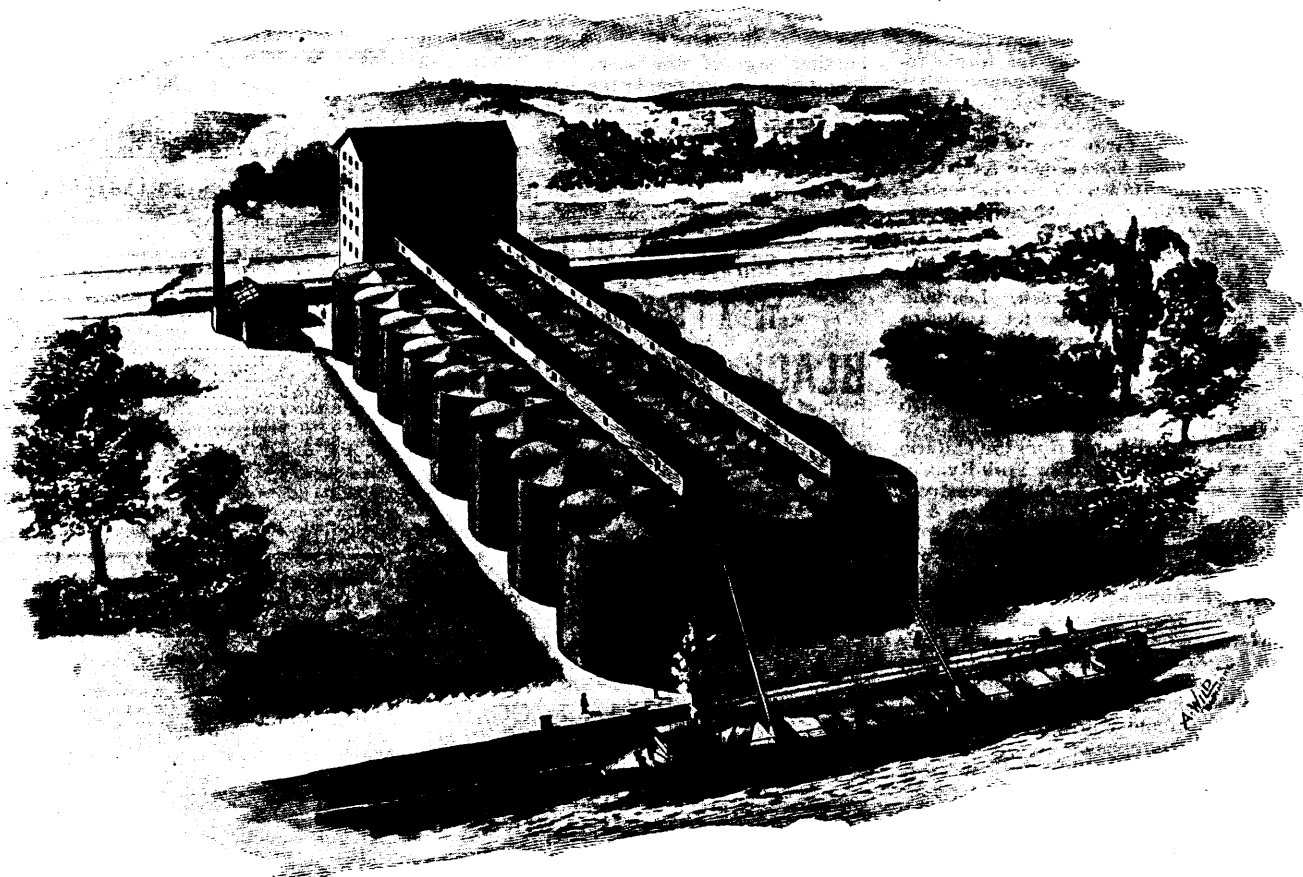
The steel tanks as shown consist of 16 tanks 58 ft. diam. x 60 ft. high, & 32 tanks 29 ft. diameter x 60 ft. high.

It is understood that the C.P.R. Co. does not intend to carry any insurance on the buildings, tanks, or grain stored therein.

The building, tanks, &c., have been built by the Steel Storage & Elevator Construction Co., Buffalo, N. Y.,

C.P.R. Pipestone branch.....	255,000
" Southwes'n "	1,041,500
" Emerson "	179,000
" Stonewall "	48,000
" W. Selkirk "	3,000
" Pr. Albert "	65,000
" Edmonton "	360,000
" All lines	15,765,500
Man. & N. W. Railway	1,136,000
L. Man. R'y & Can. Co.	115,000
Northern Pacific R'y	1,004,000
Gt. Northwest Central	357,500
Total.....	18,378,000

The largest elevators are the C.P.R. Co.'s at Fort William, with the following capacities in bushels:—A and B, 1,250,000 each; C and D, 1,500,000 each. The others having a capacity of over 100,000 are:—Keewatin, Lake o, the Woods Milling Co., 750,000; Winnipeg, Ogilvie Milling Co., 320,000; Port Arthur C.P.R., 315,000; Winnipeg, Northern El, evator Co., 140,000; Brandon, Alexanderf



CANADIAN PACIFIC RAILWAY STEEL ELEVATOR, FORT WILLIAM, ONT.

steel plate floors, supported on I beams, the steel frame being covered with heavy corrugated steel. The building contains the scales, steel circular garners, steel elevator legs, power shovels, car pullers, warehouse separators, steel spouting, transmission machinery & fixture, for the weighing & transferring of grain from cars to tanks or direct to vessels. The steel building & contents being fireproof is not the only feature to be considered. Steel construction will last much longer than wood; no settlement will occur to disarrange the shafting & belting. No force of mechanics is required to replace rotten or broken timbers & repair spouts and shafting.

The two belt galleries shown over the top of tanks are constructed of steel, & contain 2 belt conveyors, each with trippers, for distributing grain to the various tanks, or direct to vessels. The shipping capacity is 40,000 bush. an hour. The unloading capacity is 400 cars a day.

Western Elevator Capacity.

The following table shows the growth of the capacity of grain elevators and warehouses on or adjacent to lines of railway, including Port Arthur, Fort William, Keewatin and points in Manitoba and the Northwest Territories:

1891.....	7,628,000 bushels.
1892.....	10,366,800 "
1893.....	11,467,100 "
1894.....	11,817,100 "
1895.....	12,000,000 "
1896.....	13,873,600 "
1897.....	14,999,300 "
1898.....	18,378,000 "

Following are details of the present capacity in bushels:

C.P.R. Main Line.....	10,499,000
" Pembina branch.....	2,195,000
" Souris "	1,120,000

Kelly & Co., 125,000; Portage la Prairie, Farmers' Elevator Co., 110,000; Edmonton, Brackman & Kerr, 104,000.

In Manitoba and the Territories, including Keewatin, there are 58 flour mills, with a daily capacity of 11,825 barrels, and 5 oatmeal mills, with a daily capacity of 425 barrels.

The C.P.R. Co., which recently bought the Trail smelter on the Columbia River & the railway from the smelter to the mines at Rossland, has contracted with the War Eagle mine for the shipment & treatment of 100 tons of ore daily for a year. The freight & treatment charges are \$7.50 a ton, a reduction of \$3.50 below the rates which have existed. The Le Roi smelter at Northport, Wash., made a lower bid in connection with the Spokane & Northern Railway, but the War Eagle preferred to pay the higher rate & have the ore treated in B.C.

CONSTRUCTION & BETTERMENT.**Ottawa & New York Railway.**

The work of completing the grading north of Cornwall is in progress, & it is expected the line will be ready for traffic by July. Owing to much of the work being done late last fall, a good deal of it will have to be gone over, especially the embankments in the swampy places, to make the roadway secure. Brennan & Foster are at work on Cornwall Island, & the operations south of the river will be begun shortly. The Soosmith Co., which has the contract for the foundations of the International bridge, has a staff at work preparing to finish the masonry. A large quantity of cut stone has been delivered on the north bank of the Cornwall Canal, & derricks to handle it are being put up. It is intended to put in the piers for the swing bridge across the canal first, taking advantage of the water being out of the canal, & the work will be finished before the opening of navigation. The completion of the piers in the south channel, & the building of those in the north channel, will then be rushed through. It is expected both bridges will be ready for traffic towards the end of July.

"The Ottawa & New York Ry.," said President Hibbard recently, "was originally chartered as the Ontario Pacific Ry., with powers to build from Cornwall to Sault Ste. Marie, by way of Ottawa. This charter lay in abeyance for 15 years. Two years ago the present management of the O. & N. Y. Ry. began making preparations for the extension of that line south to connect with the Delaware & Hudson at North Creek. Learning that a charter was in existence for a line to Ottawa & beyond, arrangements were made for the extension of the line to the Capital, bridging the St. Lawrence at Cornwall. At the 1897 session of Parliament, in order to more distinctly mark the road as an Ottawa one, the name was changed from the Ontario & Pacific to the Ottawa & New York Ry. Co. Contracts were at once let for the construction of the line, including the bridge, & a short line from the present terminus of the O. & N. Y. at Moira to the bridge. This work has progressed to an extent that leaves very little work to complete the line from Ottawa to Cornwall. Work on the bridge was stopped for the winter, but will be pushed on with vigor in the spring, & will be completed by July 1. Several piers, those in the U. S. channel, & the 2 abutments are finished, & the iron & steel work is on the ground ready for erection as soon as the weather opens.

"The construction of the south link between Tupper Lake & North Creek will be continued next summer. The line to be followed through the Adirondacks is an unusually favorable one for a mountain road, the grades, with the exception of 1 section of 10 miles, not exceeding 1%, & the curvature being light. The line follows the waters of the St. Regis & Raquette Rivers for the first 60 miles in the mountains, & then, crossing a small divide, reaches the Hudson River, following that river & contiguous streams to its southern connection. This line will form the shortest route from Ottawa to New York—415 miles—being 70 miles shorter than the present through car route.

"Spencer, Trask & Co., & Moffatt & White, of New York city, are the bankers who have formed the syndicate to build the road. G. B. Moffatt is chairman of the Directors, G. F. Peabody, a member of the firm of Spencer, Trask & Co., is Vice-President of the Co., G. W. Parker, late President of the St. Louis, Alton and Terre Haute Ry., has had entire charge of construction.

"The directors of the company are not connected in any way with any other railway in Canada, nor is there any intention of consolidating with any existing road. It is pro-

posed to operate the road as a distinctively Ottawa line, for local traffic, & also in connection with the G.T.R. from Cornwall, and with the C.P.R. at Finch & Ottawa, & the other roads running north & west from Ottawa for the usual traffic interchange. Being the shortest line to the east, it will have intimate relations with all roads competing for New York business. The O. & N.Y. intends having an entrance to Ottawa entirely independent of the C.A.R. up to the deep cut; & as the agreement with that Co. holds good only until Sept. 1 next, you can readily see that not much time can be lost in completing the line to that point."

A by-law to bonus the workshops of the Ottawa & New York Ry. Co. for \$75,000 was carried by the ratepayers of Ottawa early in January. Mr. Adgate, of New York, is the contractor for new steel bridge over the St. Lawrence at Cornwall.

C P.R. Extensions & Betterment.

As will be seen by reference to the report of the proceedings at the annual meeting, on another page of this issue, the C.P.R. will spend over \$2,000,000 in the improvement of the system, \$1,399,550 having been voted for permanent bridges, ballasting & other improvements of permanent way, & \$748,104 for terminal facilities, stations, wharves, grain elevators, sidings & fences. On the

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705 Main St., Winnipeg.

ATLANTIC DIVISION

about \$500,000 will be spent in improving the permanent way, &c., particularly between Megantic & St. John, N.B. It is intended to lay some 53 miles of heavy steel rails & about 90 miles will be re-ballasted, all to the end of better meeting the increase of winter port business at St. John. During last season the weight of business was rather much for the railway telegraph wires, & some of the business was done over the Co.'s commercial wires. The line of improvements includes extension of the railway telegraph circuit east of Montreal. A large elevator will be built at Sand Point.

THE ONTARIO & QUEBEC DIVISION

will have about \$1,250,000 spent on it. A large amount of ballasting will be done east of Montreal, & west & north of Toronto, greatly increased siding accommodation will be provided all over the division, & particularly between Toronto & Montreal, & 80 lbs. rails will be substituted for 56 & 60 lbs. on some 30 miles between Montreal & Megantic & about 5 miles on the Owen Sound branch.

IMPORTANT NOTICE**TO THE BUSINESS PUBLIC.****REDUCTION IN COLLECTION RATES.**

The Canadian Express Company have adopted a new system & a low schedule of rates for collecting notes, drafts & accounts at points on their lines in Canada, which will no doubt be taken advantage of by the general public who have such business to transact.

SCHEDULE.

Amounts.	Total Charges.
\$3 & under.....	\$0 13
Over \$3 to \$5.....	14
Over \$5 to \$10.....	16
Over \$10 to \$20.....	20
Over \$20 to \$30.....	22
Over \$30 to \$40.....	25
Over \$40 to \$50.....	28
Over \$50 to \$60.....	30
Over \$60 to \$75.....	35
Over \$75 to \$100.....	40

Maximum charge on uncollectable paper, 10c. For further information apply to the company's agents.

THE CANADIAN PACIFIC RAILWAY COMPANY.

Dividends for the half-year ending December 31st, 1897 have been declared as follows:

On the Preference Stock, 2 per cent.

On the Common Stock, 2½ per cent.

Warrants for the common stock dividend will be mailed on or about April 1st to shareholders of record at the closing of the books in New York and London respectively.

The preference stock dividend will be paid on Friday, April 1st, 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 Friday, February 25th, and in Montreal and New York on Tuesday, March 8th. The preference stock books will close at 3 p.m. on Tuesday, March 8th.

All books will be re-opened on Thursday, 7th April. By order of the Board.

CHARLES DRINKWATER,

Montreal, Feb. 14th, 1898.

Secretary.

A. HOLDEN & CO.**MANUFACTURERS AGENTS and RAILWAY SUPPLIES****AGENTS FOR****The Positive Lock Washer, for Rails, Frogs, Trucks, etc.****Elliotts Metal Co., Ltd., Brass and Copper Tubes, Sheets, etc.****Daniels' Patent P.P.P. Diagonal Rod Packing.****Patent Stamped Brass Moulders, Letters and Figures.****Thyssen & Co., Locomotive Boiler Tubes.****132 St. James Street,****MONTREAL**

The double tracking of the line between Montreal & Toronto will soon be undertaken. Surveys will speedily be made, with the view of entering upon this work, rendered necessary by an increase of traffic—an increase which is now found difficult to handle, & which could not, in the future, be handled successfully with the single track. The work will be a costly one, but as Sir Wm. Van Horne recently pointed out, it is one of the most urgent things at present before the executive. Mr. Shaughnessy says there is, of course, the preliminary work of surveying to be done before the work itself can be started, but indicates that there will be little delay in proceeding.

At Toronto Junction an addition of 60 x 130 ft. will be made to the car shops, costing about \$6,000. Some \$13,000 will be spent in increasing the facilities of the Toronto yards.

At Owen Sound there will be a general improvement of terminal facilities, including the erection of a large brick engine-house, & track extensions, costing about \$21,000.

The bridge over the Grand River at Galt, which now consists of 5 iron spans of 150 ft. each on stone piers, with timber approaches, will be replaced at a cost of about \$70,000. The piers will be raised about 10 ft., to carry 5 steel spans of 150 ft. each. Two iron spans of about 90 ft. will be added at the west end, & 1 at the east end to take the place of the wooden approaches, & the track will be raised so as to improve the grade from the bridge for about 2 miles west, & also west from the station.

The wooden stations at Galt & Woodstock are to be replaced by brick structures, costing about \$13,000 each, & comprising general waiting room, ladies' waiting & retiring room, agent's office & baggage room. The present Woodstock station will be moved eastward a little, & converted into a freight shed. The Woodstock yard will be altered to provide greater convenience for passenger trains & additional room for freight business.

The C.P.R. short line to Ottawa will be ready for operation by July. This will be the shortest line between Montreal & the capital, & it will, from the start, be the fastest. The question whether the C.P.R. will use the Ottawa Union station, or put up a structure of its own, is, according to Mr. Shaughnessy, under the consideration of the executive. The Co. will continue its transcontinental service, by the old line via Calumet, the new line, splendidly equipped, being used chiefly for fast passenger service between the commercial & political capitals. The C.P.R. looks forward to seeing this new line one of the best paying in the system. Its construction has been rapid, but solidity has not been sacrificed to speed; the rolling stock which is to be placed on it will be among the finest used on the system.

WESTERN DIVISION.

About 100 miles of 73 lbs. steel rails will be laid on the main line between Fort William & Winnipeg, & a large amount of ballasting will be done. The wooden truss bridge over the Kaministiquia River is to be replaced by solid stone arches. A small dock is being built at Wabigoon to facilitate the transshipment of mining supplies, &c. A neat frame station has been built at Morden to replace the one burned last year. Six elevators standing in a row by the tracks at Morden handle nearly a million bushels of grain every season. A number of other stations are to be built on the division, the principal one being at Moose Jaw, which has become an important station point, owing to the traffic to & from the "Soo" connection at Portal. There will also be a new dining-hall, & offices for the Superintendent & dispatchers. At Carberry a station 29x65 ft. will be built on stone foundations. Smaller stations will be built at Sinaluta, Altona, Winkler, La Riviere, Rathwell, Elva, Pipestone, Reston, Pierson, Maple

Creek & Dinorwic. The Co. has acquired the Caldwell Block, opposite the Post Office, in Winnipeg, for its city ticket and telegraph offices. The building will be remodelled & a four-storey extension will be built at the rear. The railway offices will be on the ground floor. It is expected the building will be ready for occupation in July.

The C.P.R. shops at Winnipeg have never been so busy as at present, & overtime is being put in by hundreds of employes to a greater extent than in any previous season. Owing to the great increase in traffic, all the repairs necessary for the division cannot be done at the Winnipeg shops, & it has been decided to establish another divisional point near the Rockies. A proposition has been made to the town of Calgary, & if it is accepted the Co. will build there.

On the Crow's Nest Pass branch the rails have been laid to Bull's Head Prairie, which is within 80 miles of the Columbia River. Trains are running regularly from Macleod to the end of the track. The work between Lethbridge and Macleod is being pushed, & it is expected the link will soon be completed so that trains can run through from Dunmore via Lethbridge to the end of the track.

PACIFIC DIVISION.

A large amount of work will be done, particularly in replacing wooden structures with permanent fills & steel bridges. At Mountain Creek the trestle is being filled by hydraulic.

The Co. is proceeding with the construction of a station building at Vancouver. It will be a splendid structure, of Calgary sandstone & brick, 190 ft. long, 60 wide & 126 high, with 6 storeys on the front. It will cost in the vicinity of \$200,000. The Co. will make extensions to its mountain hotels at Revelstoke, Field, North Bend & Glacier, at all of which the traffic has outgrown the accommodation. It is said brick offices will be erected in Nelson, & a sawmill, with a capacity of 100,000 ft. a day, is to be built by the Co. at Elk River.

Collingwood Schreiber, Deputy Minister of Railways, states in his recently issued annual report that he made a trip over the C.P.R. from Ottawa to Vancouver, & examined the work done & in course of erection under the arbitrator's award. On the division between Savona's Ferry & Emory's Bar the work was almost finished, giving permanency to the character of the road, the alignment having been greatly improved. The total award to the C.P.R. was \$579,255.20. Previous to the award in July, 1891, \$202,675.20 worth of work had been done. The work done from Feb., 1891, to Feb., 1892, amounted to \$11,966.79. In 1892-3-4-5-6-7, the work proceeded steadily, so that there is now only a balance of \$6,809.50.

The Deputy Minister remarks on the undertakings of the Co. for the substantial improvement of the railway in the directions of steel bridge construction, the formation of solid embankments & the adaptation of the most recent appliances to rolling stock, in order to ensure safety & comfort to passengers & employes, & states it has equipped with self-couplers 7,589 freight cars, & has fitted 5,056 freight cars with automatic brakes.

THE QUEBEC CENTRAL is about to extend its shops at Newington, near Sherbrooke, which will require an expenditure of not less than \$70,000.

THE TILSONBURG, LAKE ERIE & PACIFIC is constructing a connection at Tilsonburg, Ont., with the M.C.R. & will build a \$20,000 steel bridge across Otter Creek.

TORONTO, HAMILTON & BUFFALO.—A plan to increase the yard-room at James St. Station, Hamilton, is under consideration, the 2 tracks not affording sufficient room.

Railway Building in 1897.

Following is a record of construction during last year:

Asbestos & Danville.—From Danville, Que., to Asbestos.....	4.75
Atlantic & Lake Superior.—From Caplin to Paspebiac.....	20
Canada Atlantic.—From Lacolle Jct. to Vermont State line.....	5.5
Canadian Pacific.—Columbia & Kootenay extension from Slocan Jct. to Slocan Lake, 32 miles; Crow's Nest Pass extension from Lethbridge west to] ward Nelson, 65 miles; Montreal & Ottawa extension from Alfred toward Ottawa, 42 miles; total.....	139
Coast Railway of Nova Scotia.—From Belleville to East Pubnico.....	17.2
Columbia & Western.—From Trail to West Robson.....	21.5
Drummond County.—From Moose Park to Chaudiere.....	42
East Richelieu Valley.—From Iberville to Henryville.....	12
Irondale, Bancroft & Ottawa.—Extension to Bancroft.....	5
Lake Manitoba Railway & Canal Co.—Extension to Winnipegosis.....	23
L'Epiphaine & L'Assomption.—Extension from L'Assomption.....	4
Montford Colonization.—From Brunet to Arundel.....	12
Ottawa & New York.—From Ottawa to Cornwall.....	52
Phillipsburg Railroad & Quarry.—From main line to wharf on Missisquoi Bay	.7
United Counties.—From Iberville to Island Thomas.....	22

Total.....380.65

The total mileage of new roads built in the whole of the United States during the same period was only 2,108.82 miles.

Work on the Grand Trunk.

In addition to equipping its system with extra 60,000 lbs. freight cars the G.T.R. is making arrangements to have the roadbed, locomotives, &c., between Toronto & Portland put in condition to haul 35 cars to a train-load from the former to the latter city without having to cut the train. To do this means that all the bridges between Vaudreuil & Portland are being materially strengthened, & some of the heavy grades east of Montreal will be overcome by building a track round them, which will perhaps increase the mileage to some extent, but the amount of time saved by running over flat country will equalize the loss, if any. This departure will enable the Co. to rush through its trains much quicker than formerly, when the trains had to be cut & reduced in load at several terminals in order to overcome the grades.

Arrangements have been made to commence extensive improvements on the Southern Division, which is now being jointly used by the G. T. & Wabash. Traffic will now be much heavier than formerly, in view of the change, & it will be necessary to lay standard 80 lbs. steel rails to replace 56 to 66 lbs. ones now down, & put in additional sidings.

The masonry work on the Victoria Jubilee Bridge at Montreal has been completed, & the work of erecting the superstructure will now go on from both ends.

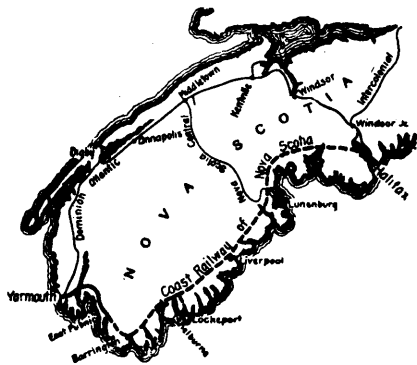
General Manager Hays informs us that it is the Co.'s intention, as soon as the necessary legislation can be obtained, to somewhat improve the International Bridge connecting Fort Erie, Ont., with Buffalo, N.Y., so as to better facilitate the Co.'s business over it. The plans, however, have not yet progressed far.

Construction & Betterment Notes.

CANADA ATLANTIC & O., A. & P. S. RY.—The new car shops in Ottawa East will probably be re-commenced about May 1, & about the same date work will begin the Central depot. The O., A. & P. S. Railway Company is at present building several large warehouses at Parry Sound for the storage of goods consigned to lake points. Two of them will be 80 x 600 ft. One is to hold packages from lake points to be shipped east, & the other for goods consigned to western lake points. President Booth states that work on the new station & the car shops will likely be begun as soon as the work at Parry Sound is completed.

THE COBOURG, NORTHUMBERLAND & PACIFIC is to be built from Cobourg, Ont., to Tweed, it is said, at once, the contract having been let to C. H. Bower. Cobourg will be the headquarters & base of supplies.

COAST RY. OF NOVA SCOTIA.—L. H. Wheaton, Chief Engineer, Yarmouth, N.S., states that surveys have been commenced for the extension from Lockport toward Halifax, 2 corps of engineers being in the field working in both directions. As soon as the line is located contracts will be let & grading will begin. The road is projected to run from Yarmouth to Halifax, following the south coast of Nova Scotia. Thirty-one miles are in operation from Yarmouth to East Pubnico, & 20 miles additional are under construction, the work being well advanced. The location is completed to Lockport, 97 miles from Yarmouth. An amendment to the charter has



Coast Railway of Nova Scotia.

been secured providing for a branch from Liverpool to the northern part of Queen's county, to take the place of the proposed N. S. Southern Ry., whose charter expired December last. It is expected to have the road completed & ready for operation to Lockport by the close of this year, & to have considerable work done on the line between the latter place & Halifax. Financial arrangements for completing the entire line have been made, & free right of way has been secured for the entire distance. The contractor is the Nova Scotia Development Co., of Philadelphia, Pa. T. Robertson, Yarmouth, N.S., is President of the Railway Co.

THE DEPARTMENT OF RAILWAYS has issued a circular to railway & bridge companies stating that in view of the increasing weight of locomotives, & the conversion of branch lines into trunk lines, railway bridges, the construction or alteration of which may be projected, must be designed and proportioned, in order to satisfy the requirements of the Department, for not less than a class 2 engine loading, as indicated in the departmental specification of 1896.

GREAT NORTHWEST CENTRAL.—It is said on good authority there will be no extension of this Manitoba line this year, the Dominion Government having decided not to subsidize any roads this year. The Imperial Privy

Council has not yet given a decision in the famous G.N.W.C. case, but simply outlined in what was erroneously reported as a judgment what their finding would be along certain lines. The latter included the payment of sub-contractors' claims. The English bondholders & Contractor Charlebois were to come together & arrange matters. This they failed to do, as the English bondholders would not meet the demands of Mr. Charlebois, regarding them as too excessive. The bondholders then settled with the sub-contractors, paying their claims, amounting to \$160,000, now control the road, & have asked for the suspended judgment of the Privy Council, which may be expected any day.

THE LOTBINIERE & MEGANTIC is building a wharf 160 ft. long at Cap la Roche, Que., to facilitate the shipping of pulp wood, bark, &c., from that section.

THE MANITOBA & NORTHWESTERN is repairing & extending the stockyards at Portage la Prairie. The company is looking forward to a great expansion in its live stock freight.

MIDLAND.—Fitzpatrick & Co., of New Glasgow and Windsor, N. S., are said to have been awarded a contract for building this line from Windsor, via South Maitland & Brookfield, to Truro, N.S., 60 miles. W. Strachan, Montreal, is president of the Co., which was incorporated by the Nova Scotia Legislature in 1896, with powers to build from Windsor via Maitland & Clifton to the Intercolonial at a point between Truro & Stewiacke, thence to Eastville, with extensions & branches to coal & iron fields & shipping ports. In 1894 a Dominion subsidy was granted of \$3,200 a mile for 90 miles, from Newport or Windsor to Truro, or to a point between Truro & Stewiacke, & from a point on the railway to a point at or near Eastville, & from Eastville, through the valley of Musquodoboit River, towards a point on the Dartmouth branch of the Intercolonial, in lieu of a subsidy authorized in 1892; also for a railway bridge over the River Shubenacadie, a subsidy of 15% on the value of the structure, the total of the subsidies not to exceed \$300,000. The Midland Ry. Co. having applied to the Department of Railways, was admitted to contract for these works on July 30, 1896; the date for completion being fixed as Aug. 1, 1898.

THE MONCTON & BUCTOUCHE will put in a draw in the big railway bridge which spans the river at Buctouche. This has been ordered by the Dominion Government on representations by people of Buctouche & vicinity that it is in the interests of shipping in Buctouche harbor. It will probably cost \$2,000 to \$3,000.

NEWFOUNDLAND, NORTHERN & WESTERN.—W. D. Reid, son of R. G. Reid, who has taken over this line, states it will be formally opened between Port au Basque & St. John's, Nfld., about June 1.

THE NORTHERN PACIFIC will fill in a large number of bridges on the Manitoba division this year.

PEMBROKE SOUTHERN.—W. Russell & Co. have a contract for building this line from Pembroke, Ont., to Golden Lake, where it will connect with the Ottawa, Arnprior & Parry Sound Ry.

THE PORT ARTHUR, DULUTH & WESTERN.—Superintendent Thompson wrote us Mar. 21: "The construction of a branch of about 3 miles from a point on our line near Stanley, 17 miles from Fort William, to Kakabeka Falls is contemplated, but no arrangements have been made, as yet, to start work on it." Kakabeka is one of the most beautiful falls on this continent, & has immense power, which there are strong hopes will be utilized ere long.

THE RESTIGOUCHE & WESTERN has completed arrangements for building the first 20 miles of the line. Malcolm & Ross are the contractors, & C. L. B. Miles is Chief Engineer. The road will be from the I.C.R., at Campbellton, N.B., to the St. John River at Grand Falls or St. Leonards, at either of which it connects with the C.P.R.; at St. Leonards also with the Bangor & Aristook Ry. By bridging the Restigouche at Campbellton, it will connect with the Atlantic & Lake Superior to Gaspe. There will be 110 miles to build, through heavy timber, spruce & cedar, in abundance, & some fine tracts of farm lands, on ridges covered now by a wealth of rock maple.

WINNIPEG TO LAKE SUPERIOR.—A Winnipeg telegram, April 12, says:—An arrangement has, it is said, been come to between Premier Greenway & Wm. Mackenzie, Toronto, who controls the Ontario & Rainy River & South Eastern Ry. charters, under which another line between Winnipeg & Lake Superior will be built, by which Manitoba, to secure competition with the C.P.R., will guarantee the bonds of that portion of the road lying within the Province—about 100 miles, & extending from Winnipeg to the Lake of the Woods—to the extent of \$8,000 a mile. This guarantee, it is expected, will enable the Co. to float its bonds at par on the London market. The South Eastern charter carries a Dominion land grant of 6,400 acres a mile. An announcement is expected in the Legislature in a few days.

GRAND TRUNK OFFICES.—Last autumn negotiations were commenced between Montreal City Council & the G. T. management, relating to the movement of the Co's general offices from Point St. Charles to the central part of the city. Mr. Hays offered that the Co., if given the upper part of Victoria Square, as a free site, with tax exemption would erect a handsome office structure there. This proposition did not meet with the approval of the Council, who offered St. Anne's Market site instead. Recently Toronto civic authorities have been urging the removal of the offices to Toronto, urging that it is more in the centre of the G. T. system than Montreal, but they have not made any offer, Mr. Hays having stated that he could not consider any proposition while negotiations with the Montreal City Council were pending. It appears settled that the Victoria Square site will not be given. Whether Mr. Hays will accept the St. Anne's Market, or some alternative site, remains to be seen. Our own impression is that matters will be arranged between Montreal & the Co., & that Toronto's chances of securing the offices are, to say the least, remote.

Personal Mention.

W. H. Miles has been appointed Live Stock Agent for the C.P.R. Western Division.

Eugene Flynn, of Montreal, once well known as the G.T.R. detective, has gone to jail for 6 months for brutally assaulting a woman.

J. M. Egan, formerly General Superintendent of the C.P.R., Western Division, is now Vice-President of the Central of Georgia, with headquarters at Savannah.

W. F. Anderson, formerly of the C.P.R. audit office in Winnipeg, has been appointed travelling passenger agent for the Co. in the Kootenay District of B.C.

E. Pennington, Superintendent of the Minneapolis, St. Paul & Sault Ste. Marie, has been appointed General Superintendent, with headquarters at Minneapolis, Minn.

W. K. Snider, a well-known conductor on the G.T.R., died at Windsor, Ont., April 5, & was buried at Fergus. He was favorably known as a revivalist & lecturer.

The Vanderbilt Changes.

On Mar. 30 the following statement was sent out from the head offices of the New York Central: To carry out the policy of a greater unity of administration in the Vanderbilt system the following adjustment of the management will be made after the annual election of the New York Central & Hudson River Ry. Co. on April 20. Chauncey M. Depew will retire from the presidency of that Co., & becomes Chairman of the boards of directors of the New York Central & Hudson River, Lake Shore, New York, Chicago & St. Louis & Michigan Central Rys.

S. R. Callaway will succeed Mr. Depew as President of the New York Central Co. Mr. Ledyard will remain President of the Michigan Central. The Presidents of the Lake Shore & of the New York, Chicago, & St. Louis have not yet been chosen. Cornelius Vanderbilt, in retiring from the Chairmanship of the New York Central & Hudson River Co. & of the Michigan Central Co., & W. K. Vanderbilt in retiring from the Chairmanship of the Lake Shore & of the New York, Chicago & St. Louis Co.'s, will remain in the directories & continue their interest in the property with which their name has been so long identified, & in which they have such large investments.

The new President of the New York Central R. R. is a Canadian by birth, & well-known in the Dominion, having held positions in Hamilton, London & Montreal. He was born on Dec. 24, 1850, & at the age of 13 entered Mr. Hickson's office in Montreal, as office boy, at a salary of \$100 per year. Mr. Hickson, now Sir Joseph, was, in 1863, Chief Accountant of the Grand Trunk. In 1865 Mr. Callaway went as Secretary to Mr. G. Cheney, Manager of the Canadian Express Company, & left there in 1869 to enter the service of the Great Western Ry. under W. Wallace, Superintendent at London, & subsequently Private Secretary to W. K. Muir at Hamilton.

Mr. Callaway retired from the Great Western to enter the service of the Detroit & Milwaukee, of which road he was Superintendent from 1875 to 1878. Upon the absorption of the D. & M. by the Great Western Mr. Callaway was appointed General Superintendent of the Detroit & Bay City Ry., & in 1880 General Manager of the Chicago & Grand Trunk & President of the Western Indiana Railways. In 1884 he accepted the position of Vice-President & General Manager of the Union Pacific Ry. & the allied lines of nearly 6,000 miles. In 1887 he was elected President of the Toledo, St. Louis & Kansas City Ry., & left that road to accept the Presidency of the Lake Shore & Michigan Southern Ry., the position he now holds. It is said Sir Charles Rivers-Wilson offered Mr. Callaway the General Management of the Grand Trunk in 1895.

Mr. Callaway is a protege of Sir Jos. Hickson, & in speaking of his life, Mr. Callaway once wrote a friend: "One of the most interesting features of my career has been the friendship & confidence of Sir Jos. Hickson. In 1863 I was office boy at \$100 a year. Mr. Hickson predicted a successful career for me, & promised to keep an eye on me. This promise was more than fulfilled 17 years later, when Sir Joseph offered me, then a young man of 27 years of age, the general management of the Chicago & Grand Trunk Ry., of which road he was President."

The Canadian Pacific's President.

Railway Age, Chicago:—"Railway men in the U. S. are not feeling extraordinarily well-disposed towards the Canadian Pacific just now, & we therefore take pleasure in presenting herewith an admirable likeness of Sir William Van Horne, in order that our readers may stick pins into him to their hearts' content. It will not hurt Sir William, for he is not eas-

ily perturbed, & must, moreover, be feeling somewhat well satisfied at present, with an increase in net income for 1897 of a little over \$2,000,000, as compared with 1896, & the dividend on common stock increased from 2 to 4%."

After giving some biographical facts, the Railway Age continues:—"It is a remarkable career—from operator & agent at small country stations in the Western States to the presidency of the Canadian Pacific & a knighthood, & Sir William is a remarkable man in other ways than as a railway manager. Had he chosen to make painting his profession he would undoubtedly have been among the great artists of this generation, for, even as it is, the work with the brush that he loves to do in the intervals of his serious labor shows extraordinary power & artistic sense. He is a lover of all things beautiful & has in his home in Montreal one of the three or four really great private collections of Japanese ceramics in the world. Stories of his ability as a mind-reader are numerous & (what is more unusual) true. Whatever the strange faculty may be that enables one mind to read what is passing in another, Sir William possesses it in a high degree, & if at any time he had cared to exploit his capacity for public uses he could undoubtedly do any of the things that made Bishop or other professional readers famous. In public affairs in the Dominion it is not necessary to say that he is a power. From time to time rumors are circulated to the effect that he is about to retire from the presidency of the Canadian Pacific. He himself makes no secret of the fact that he looks forward to the time when in his opinion his work will have been so rounded out that he can with satisfaction & confidence resign it to other hands, & himself find some of that leisure that he could use so well. He is a man of too many sides & too broad sympathies to be content always with the routine of any daily work, however large, & at the same time too earnest & too capable a worker to be willing to leave any work half done."

American Railway Management.

Under this title John Wiley & Sons, New York, have issued, in a handy volume of 368 pages, a collection of addresses delivered at the semi-annual meetings of the American Railway Association from 1890 to 1896, & of other occasional addresses by H. S. Haines, formerly Vice-President & General Manager of the Plant System. They relate to matters connected with the management of railways in the U. S., & have value, either as indicating opinions prevalent at the time that they were prepared, or as bearing upon the development of the American railway system from its inception to the present time. Though, for the most part, produced upon the spur of the moment, as opportunities offered during a busy life, some of them contain information gathered from various sources which cannot be so readily obtained elsewhere. The discussion of the Inter-State Commerce Commission Reports to 1894, contained in the address on "Rates of Transportation & Cost of Service on American Railroads," delivered in April, 1895, has been extended to include the later reports in the concluding article recently written for the purpose, entitled "Value of Railroad Property in the United States, as shown by the Report of 1896 of the Inter-State Commerce Commission."

The table of contents includes such subjects as Field of usefulness of the Association; Discipline on railroads; Committee work of the Association; Train rules, Car mileage, Safety appliances; Cost of transportation; Safety appliances; Car couplers; Standard code of train rules; Block system; Co-operation in the consideration of questions of railroad management; Labor organizations; Operat-

ing expenses of a railroad; Rates of transportation & cost of service on American railroads; Railroad organization; Review of the work of the Association for ten years; International railway congress; Introduction of American methods on foreign railways, &c., &c.

Sir Wm. Van Horne in Washington.

When Sir Wm. Van Horne was in Washington last month, he said, in answer to Senator Elkins' attack on the C.P.R. in the U. S. Senate:—"A great deal of what the Senator stated hardly agrees with the facts. He charges the Canadian Pacific with taking \$50,000,000 annually from the revenues of United States railways. As our gross earnings are only \$24,000,000, it would take a smart accountant to figure how we get the other \$26,000,000. His remarks about our subsidies are equally inaccurate. His charge that the line is Great Britain's mainstay for military purposes is somewhat comical, seeing that if there should be any trouble its proximity to the U.S. frontier would make it easy of destruction. But, of course, there will never be any trouble between England & the United States. A war between these nations would be a disgrace to civilization.

"Of late there has been a good deal of rate-cutting, & the C.P.R. has been assailed for its attitude in the war that has developed between it & some of the U.S. trans-continental lines. The rivalry for business growing out of the gold discoveries on the Yukon is at the bottom of the matter. Some of the Western lines make the claim that the C.P. was not entitled to any differential involving this Alaskan traffic; a traffic which was not of importance at the time of our agreement with the U.S. roads. But without waiting to see what we would do these lines began to cut rates secretly. Of this we have abundant evidence, in the shape of tickets bought at prices which the companies would not redeem. This left the C.P.R. no other alternative than to cut rates, but, as it ever does, by publication of an open tariff which is filed with the Interstate Commerce Commission. Every time secret cuts are made this is our recourse. This is all there is of the rate war between us and the U.S. companies, & our position is purely one of self-defence."

Loyal to Canadian Interests.

The Victoria, B.C., Times says: "The C.P.R. Co. has shown wonderful, yet characteristic, energy in dealing with the Klondike question; it has fairly flooded the United Kingdom with literature in the highest degree beneficial to the interest of Canada, yet indulging in no abuse or misrepresentation of the United States. The case for Canada has been put in such a manner that thousands who would have gone to Seattle, Tacoma, Portland & other U.S. points west come to Victoria, Vancouver & other B.C. cities. The C.P.R. can take passengers to Seattle quite as cheaply as it can land them in Victoria or Vancouver, but it is to the Co's credit that all its efforts have been to divert the travel to Canada. We do not expect railway companies to be influenced entirely by patriotism, but the C.P.R. has certainly in this matter done all within its power to give Canada the benefit of its influence without going out of the way to hurt rival lines by false statements. The Alaska Commercial Co. with all its experience in the Yukon & thorough knowledge of the rules and regulations governing the import of goods to the Klondike, purchasing its stores in Victoria, is significant testimony to the fact that the Canadian campaign has been conducted on the proper lines & that it will be completely successful."

YORK STREET BRIDGE, TORONTO.

By A. P. Walker, C.E., O.L.S.

This structure stands near the foot of York St., Toronto, & affords access from the city to the water-front for vehicles & foot-passengers, over the intervening railway tracks. It was built under the provisions of "The Esplanade agreement, 1892," the parties thereto being the C. P. & G. T. Ry. Co's. & the City of Toronto. This agreement was one of the results of the endeavors of the C.P.R. to establish a freight yard in the central part of the city, & under it that Co. was to construct the bridge, & the cost was to be borne in equal parts by that Co. & the city, unless the courts should decide that the G.T.R. was liable for a share, & the plans of the structure were prepared in Montreal under the direction of P. A. Peterson, Chief Engineer of the C.P.R., and were approved by the Toronto City Engineer. Work on the ground was commenced May 1, 1896, & the bridge was opened for traffic about the beginning of Aug., 1897. The erection took much longer than anticipated, owing to the contractors for the ironwork being unable to obtain their raw material fast enough, & to a ship-load of timber for the deck being wrecked en route, & by differences arising between the Co. & the city regarding the finishing up of the roadway.

The general design of the bridge is a steel trestle, composed of about 32 spans deck-plate girder ranging from 30 to 70 ft. span, with wooden stringers & decks. There are also in addition 2 spans of less than 20 ft. rolled steel I beams. These girders & I beams rest in iron columns, standing on stone pedestals, except at the 3 ends of the bridge, where there are stone abutments. The width of the roadway, except on the southerly ramps, is 37 ft. 6 in., with sidewalks on each side 7 ft. 6 in. wide. On the southerly ramps the width of roadway is 32 ft. 6 in., with one 7 ft. 6 in. sidewalk.

The ground-plan of the bridge is "T-shaped," with the base resting on the south side of Front St., & it extends southerly therefrom across the deviation of York St. & the railway tracks to Lake St., a distance of about 906 ft. Here the ramps of the bridge turn, one to the right & the other to the left, & descend to the level of the street, & the length of these ramps is each about 316 ft., making a total length of bridge of 1,538 ft.

From Front St. the roadway of the bridge rises with a grade of 1 ft. in 20, for about 298 ft., & at the Lake St. ends there are similar falling grades of 1 in 20, about 500 ft. in length, & heavy loads to the railway freight-sheds are taken over these grades every day & no special difficulty seems to be experienced.

There are in all 3 abutments and 68 pedestal blocks. The foundation of the two Lake St. abutments & all the pedestal blocks, except 14 north of the south line of the old Esplanade, are on piles driven to the ledge rock. This was necessary, as the land was formerly part of Toronto Harbor, & had only been filled in the year previously with miscellaneous rubbish, earth, brickbats, tin cans, as well as more objectionable refuse.

When piles were to be driven an excavation was carried down to 1 ft. below zero level of the water of Toronto Harbor, & soundings were then taken down to the rock. The piles were then cut off the correct length & driven home with a "follower," & under the specifications the piles were to be cut off 1 ft. below zero level, & the above method was found less expensive than actually cutting them under water, & it was very seldom that a pile had to be cut when once driven home. Only a very blunt point was made on the pile before driving, & four piles were driven for the small pedestals, 18 for the medium & 9 for the

large pedestals. Under the abutments the piles were 4 ft. centres longitudinally & 2 ft. 6 in. transversely.

The excavation was then carried down 6 inches below the top of the pile & 2 ft. in depth of concrete put in. In some cases where the underlying material was very soft, short lengths of 2 in. plank were laid flat under the concrete between the piles, in order to keep the concrete from settling in the soft material before it was set. The concrete foundation is 7 ft. square under 10 of the pedestals, carrying the longer spans; 6 ft. sq. under 9 pedestals; 5 ft. 6 in. sq. under 5 pedestals, & 4 ft. 6 in. square under the remaining 44, & is generally 2 in. deep. The concrete was composed as follows, except when laid under water: Cement 1 part; clean, sharp sand 3 parts; broken stone 5

parts; all by measure, & under water the concrete was composed, cement 1 part; sand 2 parts; broken stone 5 parts.

Below ground the stone-work is what is known as "Rubble masonry." Above ground it is "Rock-faced ashlar," & was built under the C.P.R. standard masonry specifications. The stone was brought partly from the contractors' quarries at Owen Sound & partly from the Orangeville quarry. The contractor for concrete and masonry work was D. Chalmers of Owen Sound, & the piling was done by the Ry. Co.'s own men & its track pile driver. The two top courses of the pedestals had to be drilled before being placed in position to receive the 1 1/4 in. iron rods which secured the iron columns to the masonry, & some little difficulty was experienced in drilling completely through these stones without breaking

them. This drilling was done with a steam drill, half from each side of the stone.

The iron-work was erected during the winter of 1896-7, & was paid for at so much per lb. in the finished work. The bridge was designed to carry in addition to its own weight the following live loads, either singly or in any combination.

a.—100 lbs. per sq. ft. of roadway & sidewalk.

b.—One 32,000 lb. road roller, having a wheel base of 11 ft. 2 in. in length & 7 1/4 in. transversely.

c.—A string of electric cars 26 ft. long, each weighing 30,000 lbs. fully loaded, on each track, and all parts of the structure were proportioned so that maximum loads should produce no greater tensile strain upon the net section, than 12,000 lbs. per sq. inch. A



wind strain of 400 lbs. for each longitudinal lineal foot, & 150 lbs. for each vertical lineal ft. if the trestle bents were allowed for. All steel had to come up to the following requirements.

Ultimate strength.....	58,000 to 65,000 lbs.
Elastic limit	33,000 lbs.
Elongation in 8" in.....	20%
Reduction of area.....	40%

& was made by the open-hearth process. Before leaving the shop it was thoroughly cleared of all loose scales & rust with steel scrapers & brushes, & was then given a good coating of red lead mixed with linseed oil, well worked into all joints & surfaces, & after erection the iron-work was given two more coats of paint.

All the timber in the deck of the bridge,

with the exception of the sidewalk planks & paving blocks, is southern yellow pine, creosoted with 10 lbs. of dead oil of coal-tar per cubic foot.

On top of the joists & 4-inch plank was laid 2 thicknesses of best tarred paper thoroughly sealed with roofing-pitch to the planking & each other. On top of this was laid the paving blocks, consisting of square cut white pine blocks 8x4x4 1/2 in. deep, grain upwards. These blocks were held apart at the cross joints by 3 specially made nails driven into each block up to the collar having the blocks 3-16" apart. All joints & vacancies were then filled in with best paving pitch, & the roadway covered 1/2 in. deep with gravel. A double-track girder rail for electric cars was laid across the bridge by the St. Ry. Co. before the paving was done, for possible use in

the future. The sidewalk planks are of tamarack 7 ft. 6 in. long, 2 in. thick, laid with 1 1/2 in. fall towards the curb. The cost of the structure was approximately:

Foundation & earthwork, including piling.....	\$ 4,200
Stone & concrete work.....	15,900
Iron-work.....	43,000
Damages St. James hotel property..	4,900
Deck & roadways.....	28,000
Engineering.....	2,000
	\$98,000

Official Railway Report.

The annual report of the Department of Railways & Canals for the last fiscal year states that the number of railways in operation in the Dominion was 141. As some of these lines have been amalgamated, the number of controlling companies was 81. The number of miles of completed railway was 16,687, an increase of 300, besides 2,218 miles of sidings. The number of miles laid with steel rails was 16,477. The number of miles in operation was 16,550. The paid-up capital amounted to \$921,858,232, an increase of \$22,040,332; the gross earnings amounted to \$52,353,276, an increase of \$1,807,707; the working expenses to \$35,168,665, an increase of \$126,010; the net earnings to \$17,184,611, an increase of \$1,681,697. The total number of miles run by trains was 45,780,851. The accident returns show only 7 passengers killed.

The Government expenditure on railways prior to and since Confederation in 1867 is as follows:—On capital account, \$122,944,518.33; for railway subsidies, \$16,390,887.33; making a total of \$139,335,405.66. The expenditure for working expenses of Government roads was \$69,522,382.86, making a grand total of \$208,857,788.52. The revenue from Government roads during the same period amounted to \$61,196,803.08.

Of the total amount, \$579,255.20 awarded the C.P.R. in 1891 by special arbitrators in respect of transferred works in B.C., to be expended by the Co. under Government supervision, the value of work done up to Aug., 1897, was \$572,445.70, including \$202,675.20 expended prior to the date of award, leaving to be expended \$6,809.50. On June 30, 1897, the C.P.R. Co. had under traffic in Canada 6,314 miles of railway, including leased lines.

The Government System.—The I.C.R., the Windsor Branch & the P.E.I.R. were the lines maintained by the Government, a total of 1,388 miles. On the Intercolonial 1,145 miles were in operation, earning \$2,866,028.02, with working expenses of \$2,925,968.67, entailing a loss of \$59,940.65. During the year there was an addition of \$149,112.52 to the capital account expenditure, making the total chargeable to capital on the whole road, as amalgamated, \$55,416,157.15. For increased accommodation at Halifax, there was \$22,274.97; for the branch from Windsor Junction to Dartmouth, \$37,206.44; for increased accommodation at Moncton, \$29,877.32; & for rolling stock, \$14,996.04. Passenger traffic earnings were \$979,005.57, an increase of \$7,579.31; freight traffic \$1,687,050.42, a decrease of \$101,762.76; mail & express produced \$199,972.03, an increase of \$2,571.37. The earnings per mile were \$2,503.08, a decrease of \$86.80.

The Windsor Branch, 32 miles, extending from Windsor Junction on the I.C.R. to Windsor, N.S., is operated by the Dominion Atlantic Ry. Co., which pays all charges of traffic workings, being allowed 3/4 of the gross earnings, the Government taking the remaining 1/4 & assuming all cost of maintenance. This agreement was made in Dec., 1892, & extends for a further term of 21 years. The duty of supervision is performed by I.C.R. officers. The Government earnings amounted to \$40,603.23, an increase of \$4,041.40. Maintenance expenses amounted to \$10,821.04, a decrease of \$5,655.42, leaving a balance of profit of \$29,782.19 in favor of the Government.

The Prince Edward Island Ry. is 211 miles long. The total cost of road & equipment, chargeable to capital account was \$3,750,565.38. The gross earnings for the year amounted to \$153,443.13, an increase of \$6,966.50. The working expenses were \$240,489.90; the over-expenditure being \$87,046.77. The P.E.I. Ry. carried 121,498 passengers, a decrease of 1,088. The freight carried was 52,151 tons, an increase of 5,756. Passenger receipts were \$62,695.07; freight, \$69,872.66; mails, express, etc., \$20,875.40.

The Government operated the **Bale des Chaleurs Ry.** during the winter 1896-7 in connection with the I.C. Ry. Co., the results from Dec. to May showing an expenditure of \$18,679.97; gross earnings of \$6,725.08; leaving a loss of \$11,954.89. The road was transferred back to the Co. May 31, 1897.

The growth of railways in Canada since 1836 has been as follows:

Year.	Miles in Operation.	Year.	Miles in Operation.
1835	0	1873	3,616
1836-46	16	1874	3,832
1846-49	54	1875	4,331
1850	66	1876	4,804
1851	159	1877	5,218
1852	205	1878	5,782
1853	506	1879	6,126
1854	764	1880	6,858
1855	977	1881	7,194
1856	1,414	1882	7,331
1857	1,444	1883	8,697
1858	1,863	1884	9,577
1859	1,994	1885	10,273
1860	2,065	1886	10,773
1861	2,146	1887	11,793
1862	2,189	1888	12,184
1863	2,189	1889	12,585
1864	2,189	1890	13,151
1865	2,240	1891	13,838
1866	2,278	1892	14,594
1867	2,278	1893	15,095
1868	2,278	1894	15,627
1869	2,524	1895	15,977
1870	2,617	1896	16,270
1871	2,695	1897	16,550
1872	2,899		

RHODES, CURRY & CO's. car works, foundry & machines shops at Amherst, N.S., were damaged by fire to the extent of between \$40,000 & \$50,000, Mar. 22, the loss being fully covered by insurance.

NOW READY.

The Klondike Official Guide

PREPARED BY

WM. OGLVIE,

Dominion Land Surveyor,

From his Latest Reports, with Numerous Maps and Illustrations never before published.

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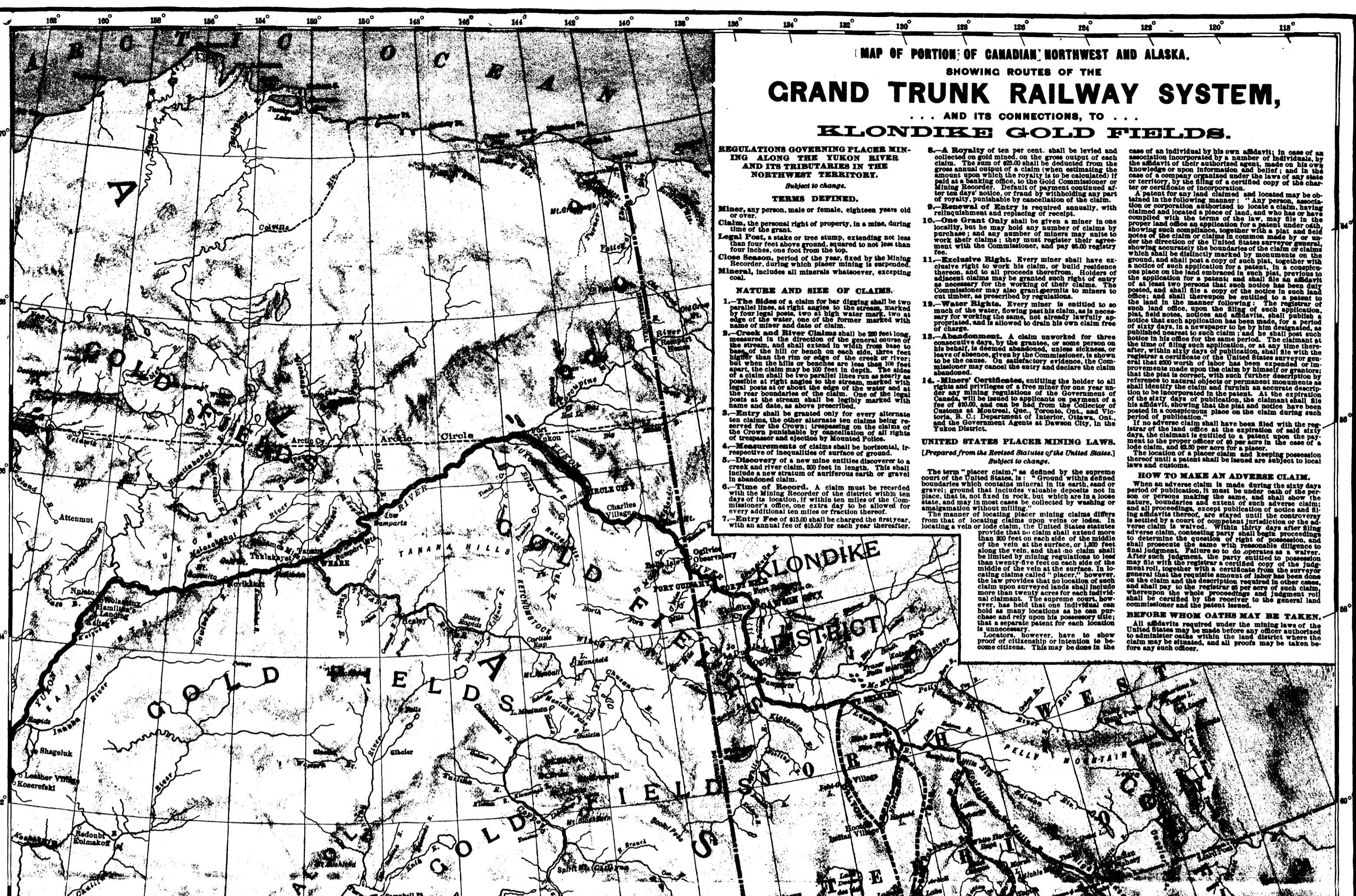
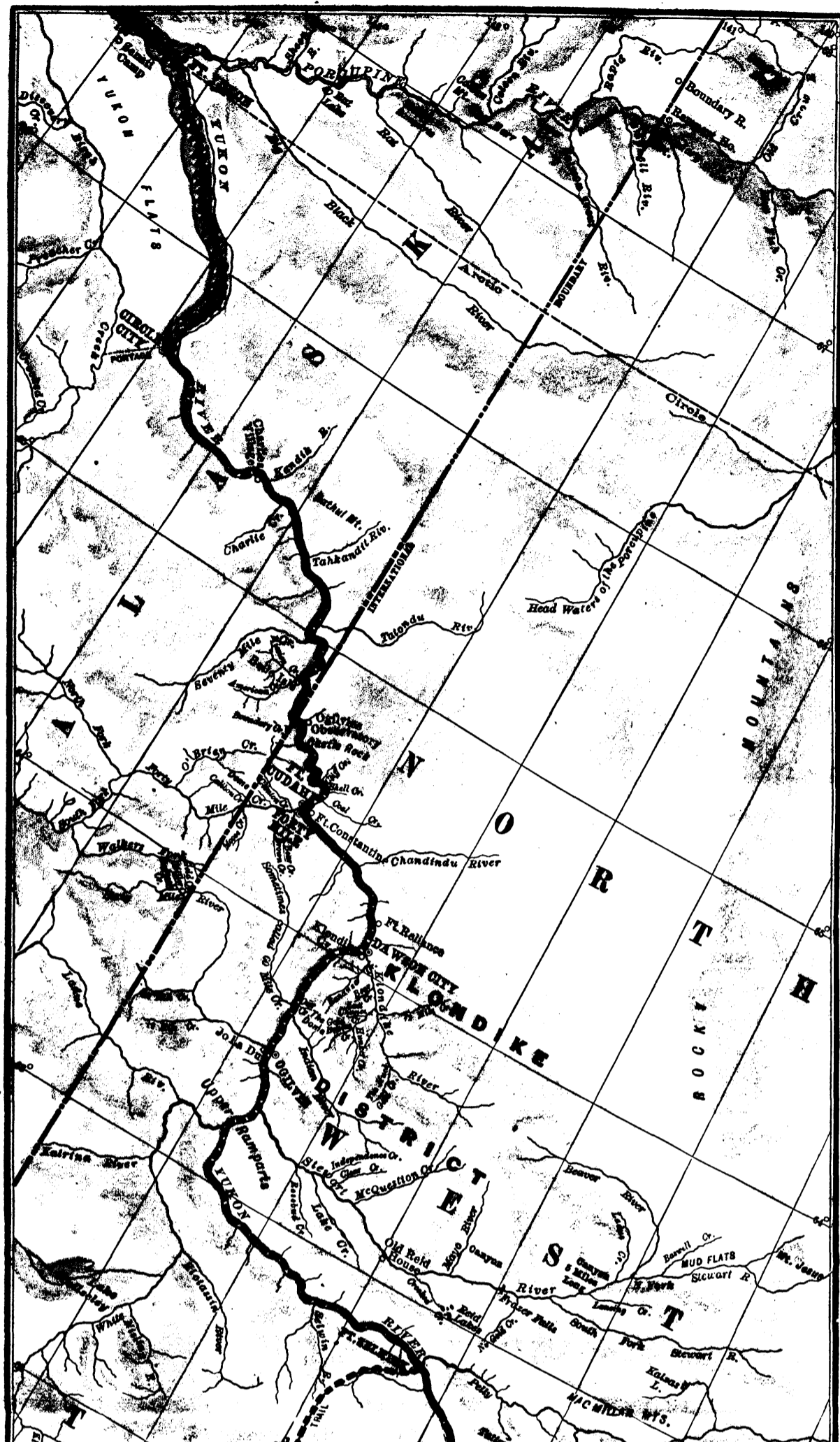
PIG IRON.

Buffalo Furnace Co.: "Buffalo Scotch," "Summerlee" "Calder."

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MAP OF PORTION OF CANADIAN NORTHWEST AND ALASKA. SHOWING ROUTES OF THE GRAND TRUNK RAILWAY SYSTEM, AND ITS CONNECTIONS, TO... KLONDIKE GOLD FIELDS.

REGULATIONS GOVERNING PLACER MINING ALONG THE YUKON RIVER AND ITS TRIBUTARIES IN THE NORTHWEST TERRITORY.

Subject to change.

TERMS DEFINED.

Miner, any person, male or female, eighteen years old or over.
Claim, the personal right of property, in a mine, during the term of the grant.
Legal Post, a stake or tree stump, extending not less than four feet above ground, squared to not less than four inches, one foot from the top.
Close Season, period of the year, fixed by the Mining Recorder, during which placer mining is suspended.
Mineral, includes all minerals whatsoever, excepting coal.

NATURE AND SIZE OF CLAIMS.

- 1.—The sides of a claim for bar digging shall be two parallel lines, at right angles to the stream, marked by four legal posts, two at high water mark, two at low water mark, one of the former marked with same or mine and date of claim.
- 2.—Creek and River Claims shall be 200 feet long, measured in the direction of the general course of the stream, and shall extend in width from base to base of the hill or bench on each side, three feet higher than the rim or edge of the creek or river; but when the hills or benches are less than 100 feet apart, the claim may be 100 feet in depth. The sides of a claim shall be two parallel lines run as nearly as possible at right angles to the stream, marked with legal posts at or about the edges of the water and at the rear boundaries of the claim. One of the legal posts at the stream shall be legibly marked with name and date, as above prescribed.
- 3.—Entry shall be granted only for every alternate ten claims the other alternate ten claims being reserved for the Crown; (reserving on the claims of the Crown payable by cancellation of all rights of trespass and ejectment by Mining Recorder.)
- 4.—Measurements of claims shall be horizontal, irrespective of inequalities of surface of ground.
- 5.—Discovery of a new mine settles discovered to a creek and river claim, 200 feet in length. This shall include a new stratum of auriferous earth or gravel in abandoned claim.
- 6.—Time of Record. A claim must be recorded with the Mining Recorder of the district, within ten days of its location, if within ten miles of the Commissioner's office, one extra day to be allowed for every additional ten miles or fraction thereof.
- 7.—Entry Fee of \$10.00 shall be charged the first year, with an annual fee of \$2.00 for each year thereafter.

- 8.—A Royalty of ten per cent. shall be levied and collected on gold mined, on the gross output of each claim. The sum of \$20.00 shall be deducted from the gross annual output of a claim (when estimating the amount upon which the royalty is to be calculated), if paid at a banking office, to the Gold Commissioner or Mining Recorder. Default of payment constituted after ten days' notice, or fraud by withholding any part of royalty, punishable by cancellation of the claim. Subject to change.
- 9.—Renewal of Entry is required annually, with relinquishment and replacing of receipt.
- 10.—One Grant Only shall be given a miner in one locality, but he may hold any number of claims by purchase; and any number of miners may unite to work their claims; they must register their agreement with the Commissioner, and pay \$50.00 registry fee.
- 11.—Exclusive Right. Every miner shall have exclusive right to work his claim, or build residence thereon, and to all proceeds therefrom. Holders of adjacent claims may be granted special right of entry as necessary for the working of their claims. The Commissioner may also grant special rights to miners to cut timber, as prescribed by regulations.
- 12.—Water Rights. Every miner is entitled to so much of the water, flowing past his claim, as is necessary for working the same, not already lawfully appropriated, and is allowed to drain his claim free of charge.
- 13.—Abandonment. A claim unworked for three consecutive days, by the grantee, or some person on his behalf, is deemed abandoned, unless otherwise proved to the contrary. On satisfactory evidence, the Commissioner may cancel the entry and declare the claim abandoned.
- 14.—Miner's Certificate. Entitling the holder to all rights and privileges of a free miner for one year under any mining regulations of the Government of Canada, will be issued to applicants on payment of one dollar and cost of law, from the Commissioner's Office at Montreal, Que., Toronto, Ont., and Victoria, B.C. The Government Agents at Dawson City, in the Yukon District.

UNITED STATES PLACER MINING LAWS.

[Prepared from the Revised Statutes of the United States.]
Subject to change.

The term "placer claim," as defined by the supreme court of the United States, is: "Ground within defined boundaries which contains mineral in its earth, sand or gravel; ground that includes valuable deposits not in place, but in, not fixed in rock, but which are in loose state, and may in most cases be collected by washing or amalgamation without milling."
The manner of locating placer mining claims differs from that of locating claims upon veins or lodes. In locating a vein or lode claim, the United States statutes provide that no claim shall extend more than 200 feet on each side of the middle of the vein at the surface, or 1,000 feet along the vein, and that no claim shall be limited by mining regulations to less than twenty-five feet on each side of the middle of the vein at the surface. In locating claims called "placer" claims, however, the law provides that no location of such claim upon surveyed lands shall extend more than twenty acres for each individual claimant. The supreme court, however, has held that one individual can hold as many locations as he can purchase and rely upon his possessory title; that a separate patent for each location is unnecessary.
Locators, however, have to show proof of citizenship or intention to become citizens. This may be done in the

HOW TO MAKE AN ADVERSE CLAIM.

When an adverse claim is made during the sixty days period of publication, it must be under oath of the person making the same, and shall show the name, boundaries and extent of such adverse claim; and all proceedings, except publication of notice and filing of an adverse claim, shall be stayed until the controversy is settled by a court of competent jurisdiction or the adverse claim is withdrawn. Within thirty days after filing an adverse claim, contesting party shall begin proceedings to determine the question of right of possession, and shall prosecute the same with reasonable diligence to final judgment. Failure to do so operates as a waiver. After such judgment, the party entitled to possession may file with the registrar a certified copy of the judgment, together with a certificate from the surveyor general that the requisite amount of labor has been done on the claim and the description required in other cases, and shall pay to the registrar one per cent of such claim, which shall be held in escrow until the general land commissioner and the patent is issued.

BEFORE WHOM OATHS MAY BE TAKEN.

All affidavits required under the mining laws of the United States may be made before any officer authorized to administer oaths within the land district where the claim may be discovered, and all proofs may be taken before any such officer.

SHIPPING.**Dominion Department of Marine.**

The annual report of the Department of Marine & Fisheries states that during the year ended June 30, 1897, the expenditure for maintenance of lighthouse & coast service was \$434,895.66, construction, \$10,910.30; while for the previous year the expenditure for the lighthouse & coast service, including construction, was \$466,057.55, showing a decrease of expenditure for the last year of \$20,251.59. The appropriation for this service was \$481,510, the expenditure being \$35,704.04 less. The total number of light-stations, light-ships & fog-alarm stations in the Dominion was 635, lights shown 783; steam-whistles & fog-horns, bells & guns, 83; light-keepers & engineers of fog-alarms with masters of light-ships, 652.

The extended coast line of Canada, the numerous bays, inlets, rivers, lakes, harbors, & other navigable waters require a large number of buoys, which are maintained at an average cost of \$55,000 a year. For the year the service cost \$49,624.19. The cost is increased in years when new contracts are given for steel signal & other coast buoys. The Chief Engineer, in his report relating to buoyage, points out that the Department has been substituting steel coast buoys for wooden buoys, with favorable results. The districts now buoyed, in all parts of the Dominion, number about 300 & the buoys number about 3,000. A contract has been let for the construction of 39 steel can & conical buoys to be distributed to agencies for use as spare buoys & to replace worn-out buoys. The aggregate cost of these will be \$5,192.

The total number of steamboats reported in the several districts in the Dominion is 1,354. Of these 96 are new vessels, as reported by the Chairman of the Board of Steamboat Inspection; the gross tonnage being 224,865.22.

The hydrographic survey of the Great Lakes made good progress, the steamer Bayfield being employed. Mr. Stewart completed the survey of Lake Erie in July, & resumed the survey of Lake Huron. The charts, when completed, will be forwarded to the Admiralty, & with the sheets of the U.S. survey will make a complete chart of the lakes. A chart of the eastern part of the Bay of Quinte, from Kingston to Deseronto, was completed. Hydrographic notes of B. C. waters were forwarded from the master of the steamer Quadra, & were embodied in the Department's notices to mariners.

A New Maritime Line.

The Manhattan Steamship Co. was incorporated recently, with a capital of \$1,000,000, & headquarters at 11 Broadway, New York. It will operate a service between New York, Maine & the Maritime Provinces. The tourist travel into Maine & the Maritime Provinces has increased to a gigantic figure within the past few years. Contracts have been given for the construction of 3 steel twin screw passenger & freight steamers. The dimensions of these are 260 ft. long by 45 ft. beam. Each contains 2 engines, 22x36x55x28 in. stroke; 6 boilers, 11 ft. 6 in. in diameter by 12 ft. 6 in. long, giving a speed of 17 knots an hour. These steamers are of the best modern construction, with large space devoted to cold storage. The freight accommodation of these new steamers will be ample for all requirements, & in addition a large space has been apportioned for cold storage for the successful transportation of fresh fish, lobsters, fruit & garden truck.

Each steamer will have 126 staterooms of 2 berths each. These rooms will be handsomely fitted up. Many are en suite, & there will also be found several parlor staterooms con-

taining large brass bedsteads & sofas, &, like all the staterooms, luxuriously appointed in delicate tones of ivory & gold. The lavatories & bath rooms will be of the latest sanitary design. The dining-room will be entirely separate from the grand saloon, & will be provided with a series of tables seating 150 persons. The 2 ladies' grand saloons & music halls are to be marvels of beauty & comfort. The men's smoking room will be located on the after part of the saloon deck, with buffet attached. It will be 30x20 ft.

Activity in Boat Building.

Never in the history of the Pacific Coast has there been such activity among ship-builders & marine inspectors as at present. A great shortage of expert hands is reported. The Victoria Colonist reports that a small-sized fleet is being launched every week at Turpel's. During the first week of March the little stern-wheeler Monte Cristo & the schooner Casco were launched from the yards. Fulton & Crane are having a stern-wheel steamer built for the Stikine. Another boat, 124x22 ft., with light draught & powerful machinery, suitable for all kinds of river work, is being built under direction of Mr. Shray. Capt. Cairn will have a new freight steamer for the Fraser; & Spratt's Ark—a huge, barge-shaped craft—is being prepared for Klondike trade. In the same yards the tugs Hope & Chieftain are being overhauled.

In the Star yards two Yukon stern-wheelers—the Victorian & Columbian—are under way for the Canadian Development Co., to ply between the Hootalingua & Dawson City. A freight steamer for Capt. Grant is also being constructed, & the tramp steamer Commonwealth being repaired.

The new C. P. N. steel vessel, to be fitted with water-tight compartments, is also under way.

Canadian Pacific Navigation Co.

The C.P.N. Co. is arranging for the shipment of goods direct to Dawson City without touching at a U. S. port, the object being to avoid bonding privileges or other customs arrangements. The navigation of the Stikine River, through the strip of Alaska at the mouth, is by virtue of treaty rights as free to Canadians as to United Statesers. Taking advantage of this, the C.P.N. Co. intends to run a line of small steamers from Port Simpson up the Stikine River. Connection will be made with these steamers by the Co's vessels from Vancouver & Victoria, & Wrangel will not be touched at all. The trade now being built up there will thus be partially diverted to Port Simpson.

It is recalled that several years ago a steamer, the Western Slope, ran from Port Simpson right up the Stikine to the Canadian line, & in 1878, when the U. S. Government began to show a somewhat similar spirit to what it is doing now, of trying to prevent Canadian vessels doing any of the carrying trade, the steamer ran on the Stikine for two seasons. The vessels the C.P.N. intends to utilize include the R. P. Rithet, Yosemite & some others.

Capt. Bernard King, of St. Catharines, Ont., died Mar. 28, aged 82. Following the lakes, as early as 1837 he was on a boat running from the Niagara River to the north shore of Lake Ontario, & during his early years he had under him such well-known mariners as the late Capt. Jas. Norris, the late Capt. S. Neelon, & Capt. Larkin. He sailed several vessels in his early years, & owned a few. He was the first man to take a ship from Lake Ontario to Halifax.

Port Arthur & Fort William.

The head of Lake Superior is to have better steamboat connection with the East & Duluth this year than ever before in its history.

The C.P.R. Co. will run their three steamers, Alberta, Athabaska & Manitoba, from Owen Sound, giving three sailings each week.

The Beatty Line will run the United Empire & Monarch from Sarnia to Port Arthur, Fort William & Duluth, which will make 3 sailings in two weeks each way.

The Black & White Lines are putting on two steamers, the Majestic & Collingwood, from Collingwood to Port Arthur, Fort William & Duluth, which will give the same service as the Beatty Line.

The mail steamer Hiram R. Dixon, of the Booth Line, will make tri-weekly trips between Duluth & Port Arthur.

The combined sailings will aggregate 6 trips a week each way from Port Arthur & Fort William to Owen Sound, Collingwood & Sarnia, & 6 boats each way between Fort William, Port Arthur & Duluth, or practically a daily boat on both routes.

The steamboat lines have reduced fares during the excursion season, & have largely reduced the immigrant rate for the whole year, so that it is expected steamboat business to Port Arthur & Fort William this year will assume greater proportions than ever before in the history of the Canadian lines.

Correspondence from Wrangel.

A correspondent writing from Stikine Island, mouth of Stikine River, Mar. 6, said:—"All passengers intending to go up the Stikine have to take a light draft steamer at Wrangel, so as to reach this island, where the tide keeps the lower end free from ice; about half-a-mile up the island the ice can be taken. The first parties to arrive reached here about the middle of January, & since then they have been arriving thicker & faster, until at the present I think I am not far wrong when I say there are at least 1,000 men with outfits on the river between here & the Big Bend, 25 miles up the river, while camped on the island are at least 500 more, & there are about 500 waiting in Wrangel, which number is being augmented each day by the many that are being landed by the steamers, 2 or 3 of which arrive daily. Four steamers arrived here to-day, on one of which was the vanguard of Mackenzie & Mann's party. There is also here Capt. Armstrong's party of 40 men, 70 tons of machinery & supplies. Capt. Armstrong is intending to haul his outfit up the river by steam power. He has an engine & a long steel cable. This cable he will run out ahead, take a snub on some convenient tree, & by steam power haul engine & supplies up to the snubbing point. So that no time may be lost, he intends to travel day & night, & takes an electric light plant for the purpose of illuminating the river ahead at night. He takes the necessary machinery for 3 steamboats on Lake Teslin."

The Polson Iron Works.

In addition to the marine and other work mentioned in last month's issue this Toronto firm has the following on hand;

Two Clyde type marine boilers each 11 ft. 4 in. diameter by 12 ft. long, to pass Government inspection for 170 lbs. working pressure. These are for the composite freight steamer now under construction by the Calvin Co'y. at its works at Garden Island, Ont.

Brown automatic engine, 150 h.p., & two 100 h.p. boilers for the Bain Wagon Co., Woodstock, Ont.

One pair Brown automatic cross compound condensing engines for Brandon Electric Light Co.

OCEAN, LAKE & RIVER.

Ontario & the Great Lakes.

The steamer Tecumseh is having a new boiler plant installed at Toronto.

The iron steamer Seguin, 200 ft. long, is being lengthened about 40 ft., in Toronto.

The S.S. Telegram has been put on the route between Collingwood & Michipicoten.

Capt. D. Milloy is getting things in shape for the opening of business at the Yonge St. wharf, Toronto.

The Straits of Mackinac opened Mar. 28, the earliest opening for the 63 years of which records have been kept.

It is said \$33,000 were paid for the Rose-dale by the Edwardsburg Starch Co., & it is estimated the repairs will cost \$24,000.

It is said to be on the cards to organize a company with a capital of \$3,000,000 to navigate the Great Lakes & St. Lawrence River.

The steamer George H. Dyer, recently purchased for the "Soo" line route between Gladstone and Owen Sound, will hereafter be known as the Hennepin.

The Minister of Public Works has assured the Winnipeg Board of Trade that he will take up the matter of improvements required in connection with navigation at Fort William.

The D. G. S. Bay field, which has been on the Owen Sound dock during the entire winter, has been taken off & her place taken by the D. G. S. Petrel & the steamer Joe Milton.

Capt. R. C. Clapp has arrived in Toronto from his home at Picton & has begun to fit out the steamer Chicora, which will go on the Niagara-Toronto run about the middle of May.

W. A. Geddes is making preparations at his Yonge street wharf, Toronto, for a big traffic this season. His apartments at the wharf have been enlarged by the addition of a private office.

The proposal to put ice-breakers in Mud Lake & Kaministiquia River will be considered by the Government. The proposition is new to the present Government & may not be entertained this year. But it is bound to come.

The Toronto Harbor Board has met & awarded the contracts for dredging for this season to McNamee & Simpson. Owing to the water being higher this year than usual there will not be so much dredging required. The contract calls for 22,000 yards, & the price is about \$3,000.

The American Line on the St. Lawrence River is making alterations & general repairs to its entire fleet at Kingston, & when the season opens the steamers will be in even better condition than last season. This Co. is spending considerable money in the way of improving its boats.

The C.P.R. Upper Lakes steamships lying at Owen Sound have been undergoing their annual painting. There is very little change in the interior decorations, the main color being pure white, with the panels rubbed down to a dead finish & cornice & capitals picked out with gold & lavender.

It is expected the steamers running in connection with the Merchants Line will be placed on the same routes as last summer. The Cuba & Melbourne will run between Montreal, Toronto & Cleveland; the Michigan between Montreal, Toronto & Duluth; & the Tilley & Arabian between Duluth & Prescott.

During the coming summer the C.P.R. does not intend to resume its service between Windsor & Port Arthur & Fort William. The Co.'s steamers, Alberta, Athabasca & Manitoba, will run all season from Owen Sound, giving a prompt & satisfactory service with a sailing every alternate day. Shippers will

appreciate the value of such a service when given by a fleet like that owned by the C.P.R.

The Kingston & Montreal Forwarding Co. has secured the contract for carrying grain from the new elevator at Coteau Landing to Montreal. The grain will be carried from the west to the elevator over the Canada Atlantic Ry. It will be carried to Parry Sound by vessel, & there transhipped into cars for Coteau. This change may necessitate the removal of the Forwarding Co.'s business from Portsmouth.

Efforts are to be made to reduce the dangers to navigation at Charity Shoal, Lake Ontario, where the Toronto steamer Rose-dale got into trouble. It is probable special attention will be given to the marking of the shoal. There are sharp rocks in great numbers on the shoal, which covers 4 or 5 acres. While there is an average of 10 ft. of water over the shoal, there is less on top of the rocks in some places.

A gang of workmen has been engaged for some time back on the Cambria at Sarnia making such repairs as would enable her to float. A steam pump will be put on board her & she will be pumped out; she will then be moved down to the waterworks wharf & a new rudder shipped, & she will then be taken down with her own steam to Lake Ontario, where her owners, Donnelly Bros., of Kingston, intend to have her rebuilt.

The Hamilton Steamboat Co.'s Clyde-built steamer Macassa commenced regular trips between Toronto & Hamilton the first week in April. Having been repainted & overhauled, she appears brighter & better than ever, & with her enlarged promenade deck & steam-heated main deck, cabin & ladies' cabin, will no doubt grow in popularity with the travelling public. The sister boat, Modjeska, will not take her place on the run till some time in May.

The water in Lake Ontario is deeper than it has been known at this time for many years back. If it keeps up as it is now there will be plenty of water in the lower canals, & steamers will be able to load to their full depth. At the head of Lake Superior, however, the water is said to be 20 ins. lower than it was in August last, & it has not been so low before in many years. At Sault Ste. Marie, too, it is 12 ins. lower than it was this time last year, which means a great deal to large carriers.

Assistant U.S. Engineer J. Ripley has been appointed General Superintendent of St. Mary's Falls ship canal at Sault Ste. Marie, Mich., to succeed E. S. Wheeler, Engineer on the Nicaragua Canal Commission. Mr. Ripley has been in the employ of the Government at the Sault since 1877, when he was appointed Inspector of Masonry on the Weitzel lock, which position he held until that work was completed in 1881. He has been in active charge of the channel improvements on St. Mary's River.

The motion to wind up the Georgian Bay Ship Canal & Aqueduct Co. was argued in Toronto Mar. 31, after many delays & postponements. R. C. Clute made the motion on behalf of the New York Journal Co., which has an advertising account of about \$2,000 against the Co. Counsel for the bondholders & Co. stated that all the assets of the Co. were pledged to the bondholders, & argued that if a winding-up order were granted the Journal could, therefore, get nothing. Judgment was reserved.

The Calvin Co., Garden Island, Ont., is building a composite freight steamer at its own works there. The dimensions are:—Length 200 ft., beam 37 ft., hold 15 ft. The engine is triple expansion 18 x 30 x 48 ins., 30 ins. stroke, and is being built by the Calvin Co. The 2 Clyde type marine boilers, each 11 ft. 4 ins. diameter, by 12 ft. long, to pass Government inspection for 170 lbs., working

pressure, are being built by the Polson Iron Works, Toronto. The estimated cost of the steamer complete is \$70,000.

Henry Beatty has in his office, in Toronto Union Station, a frame containing exterior & interior views of the S.S. Tartar, recently purchased by the C.P.R. for the Vancouver-Wrangle route. They were given him in 1882 by Aitken & Mansel, of Glasgow, who built the Tartar for the Union Steamship Co., of London, Eng., at the same time as they were building the S.S. Athabasca & Algoma for the C.P.R.'s Upper Lakes route under Mr. Beatty's supervision. It is a strange coincidence that the Tartar has now passed into the same ownership.

It is said the fast steamer Unique, built 3 years ago for the Detroit & Port Huron route, is to be sold to Canadian parties & run between Toronto & Port Dalhousie. Mr. Slaght, of Toronto, representing the purchasers, has been in Port Hope negotiating for the boat, & it is said arrangements for the transfer are about complete. If the deal goes through the boat will be thoroughly overhauled, & as soon as she is converted into a Canadian vessel her name will be changed to the Maple Leaf. The consideration agreed on is said to be \$25,000.

The Canada Atlantic Railway is going to be a factor in the grain trade this coming season. The steamer Lynn has been chartered to take 350,000 bushels of corn from Chicago to Parry Sound at 1st open water, for export from Montreal. This makes about 500,000 bushels that have been taken at 5¼ c. a bushel on corn & 6 c. on wheat through from Chicago to Montreal. The 5 steamers which the Canada Atlantic has engaged between Chicago & Duluth to Parry Sound will, it is said, deliver 15,000 tons a week, & other steamers may also be expected to engage in the trade to Parry Sound.

McLeod Stewart delivered an address on the Georgian Bay ship canal before a Committee of the Senate at Ottawa recently. He said that what was wanted from the Dominion Government was \$300,000 a year for 20 years. Lord Lansdowne, Lord Selborne & Joseph Chamberlain were in favor of the project. A subsidy might also be obtained from the Imperial Government. Gates would be opened by electricity in 12 seconds, & everything would be up-to-date. The cost of construction would be \$20,000,000. Mr. Stewart said if money from the Government was forthcoming he would have the work started on the canal before July 1.

The Winnipeg Commercial says there are over 100 steamers on the Lake of the Woods, 45 of them go up & down the Rainy River, & some 15 or 16 ply on Rainy Lake, above the proposed locks at Fort Frances. The contemplated improvements would open up continuous navigation through a chain of lakes with 2,000 miles of coast line. The new town of Mine Centre, situated on the Seine River, about 45 miles east of Fort Frances, has a population of about 600. An appropriation was made last session to build the lock at Fort Frances, but the work has not been done yet. The construction of this work would be of great value to all the region tributary thereto.

The longest lake steamer now afloat is the Sir William Fairbairn, which measures 434 ft. over all. But a steamer now being built at West Bay City, Mich., will be 42 ft. longer, or 476 ft. in length over all. On the keel the boat will be 456 ft. in length, & the breadth of beam will be 50 ft., while the depth of hold will be 29 ft. The capacity of this boat, on a draught of 17 ft. of water, is estimated at 6,100 tons of iron ore. The machinery will consist of a quadruple expansion engine with cylinders, 26½, 37, 54½ & 80 ins. in diameter, by 42 ins. stroke. Steam will be supplied by

4 steel boilers, allowed 200 lbs. pressure. These will each be 13 ft. 4 ins. in diameter, by 11 ft. 6 ins. in length. Seaboard.

Davis & Son, Kingston, Ont., report that they are building the following:—A steam pleasure yacht, 36 ft. long, 7 ft. beam, 36 ins. deep, tonnage, 3 tons, water-tube boiler, compound engine. A steam launch, 48 ft. long, 8 ft. beam, 4½ ft. deep, tonnage, 12 tons, water-tube boiler, compound engine. Passenger & freight steamer for Homer & Co., Gravenhurst, Ont., 65 ft. long, 14 ft. beam, 6 ft. deep. Rebuilding the private yacht Charlie M., for C. Mickle, Gravenhurst, Ont.; she is now 60 ft. long, 10 ft. wide, 6 ft. deep. They are adding 13 ft. to her length. Rebuilding the steamer Kanonha for the Muskoka Navigation Co., she is 108 ft. long, & they are adding 18 ft., rebuilding the hull, adding new cabins & making other improvements.

With the development of mining prospects in the Seine River country, traffic calls for further steamboat facilities. Last season 3 small steamers connected Mine Centre with Fort Frances & Kettle Falls, & a boat is to be built shortly to ply between Mine Centre & Sturgeon Falls, some 40 miles up the Seine River, towards the Saw Bill country. A. Glassford has the scheme in hand, & the boat will be built at Bell City, & will be ready for use shortly after navigation opens. It will be 45 ft. long, & run 12 miles an hour. Within the past year considerable prospecting work has been done on very promising properties in the neighborhood of Sturgeon Falls, & Mr. Glassford thinks the placing of this boat on the Seine River will prove a profitable enterprise.

On Mar. 19, Capt. Quinn of Toronto, Capt. Raines & Diver White began to raise a derelict in Toronto Harbor. This wreck is supposed to be the str. Lady of the Lake, sunk off the northern wharf & raised by Capt. Moody, Capt. P. McSherry & Capt. Sautler about 43 years ago, the vessels assisting in raising the wreck being the old schr. Royal Tar, now lying sunk east of the R.C.Y.C., & the schr. Echo, owned by Capt. P. McSherry. The obstruction has long been a danger to ferry boats backing out from the Island wharf. About 17 years ago, at the opening of the Wiman Baths, the str. Geneva ran over the wreck & broke her wheel, & 4 years ago the Ada Alice met with a similar accident, the cause in each case being attributed to a sunken crib.

Traffic Manager Smith of the Canada Atlantic Ry. reports favorable arrangements with the ocean lines out of Montreal for large quantities of export traffic from Manitoba & the Northwestern States in connection with the new lake line to Parry Sound. Its fleet of five 3,000-ton steel boats will probably leave the head of the lakes for Parry Sound about April 20. These are the Saxon, Briton, Roman, German & Grecian. In addition to its own fleet the Co. has chartered several of the largest lake carriers for grain, among which is the new steel steamer built at Chicago during the past winter, the Linn, whose 1st cargo to Parry Sound will either be 220,000 bus. of corn or 350,000 bus. of oats. The Canada Atlantic may be depended on to handle a large portion of through freight hereafter.

A deputation from Sault Ste. Marie went to Ottawa recently. The request, put forward as most urgent, was for a new dock. The

present dock is not large enough for the steamers of the C.P.R. & Beatty lines, which would otherwise call & do a good deal of business. Another thing much needed is the privilege of storing steamboat coal in bond. This privilege, it is said, is accorded to Canadian ports on the Detroit River. The result is, that vessels going through, which would go over to the U.S. side to coal if they had to pay the duty on the Canadian side, coal in Canada & purchase their supplies in this country. The bulk of the vessels passing through now coal & replenish stores on the U.S. side to avoid the duty on coal. The business is important & Canadian merchants would like to get a share of it.

B. W. Folger, Jr., General Traffic Manager of the American line of steamers on the St. Lawrence river, says:—"We are going to put 3 first-class boats, the New York, the Empire State & America, on the line on July 4, & they will run until the excursion business is over. They will make daily trips between Clayton and Montreal. Everything that can be done for the comfort of passengers will be accomplished, & we intend to show the people what beautiful places the St. Lawrence

Indications point to a good trade on Lake Ontario, & the steamers running between Toronto & Montreal are likely to have plenty of freight offering. Last year, while they had pretty nearly all they could carry, rates were low, although with the low rates the boats made money. Conditions are rather more favorable this year. The railways are being offered actually more than they can handle comfortably, & when the boats commence to run they are bound to get a large business, while, with the amount of stuff offering, rates are likely to be well maintained. Prospects are hardly so good for the upper lake grain carriers, for while there is a good deal of grain to be moved rates are opening low, although they may improve as the season advances. It is understood that ocean space at Montreal has already been engaged for fully a million bushels, & this means business for the lake craft. Still, even with this, at the same time last year much more than a million of bushels had been secured.

The Northwest Territories.

The Edmonton Board of Trade recently despatched expert blasters to clear the boulders from the Grand Rapids, Athabasca River.

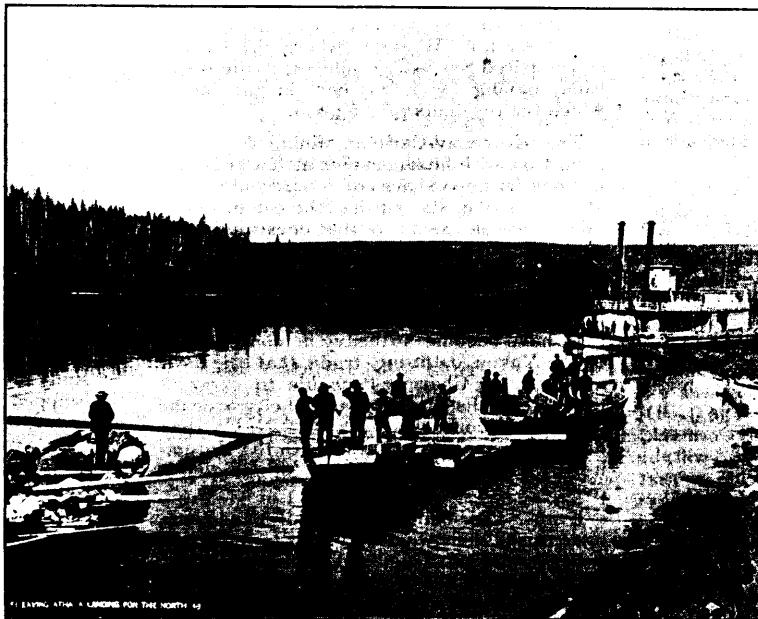
The Secretary of the Steamshipmen's Protective Association at Vancouver states that negotiations with the Union S. S. Co. have resulted in Manager Darling promising that union men will receive preferences when vacancies occur on the Co's. vessels.

The Alaska Mining & Trading Co., Chicago, has put out a lot of printed matter about the Athabasca route to the Yukon. In its last circular it says:—"Our first steamers will leave Athabasca Landing just as soon as navigation is open through, which will be early in May." We have been unable to get any satisfactory information about this Co., & cannot even find out if it has built any steamers.

A correspondent writes from Edmonton: "Extensive preparations have been made for the opening of navigation on the northern rivers. A

large number of boats have been built here & freighted to Athabasca Landing & a lively business is being done in the same line there, & it is safe to predict that several thousand people will take the water route by way of the Mackenzie River when navigation opens. In addition to the boats several small steam tugs drawing about 2 ft. of water have been built, which are intended to tow fleets of small boats, & which it is expected will run the rapids & can be taken right through to the head waters of the Peel or the Pelly. The Hudson's Bay Co. has placed the lots of its new townsite at Athabasca Landing on the market. As Athabasca Landing is at the head of navigation on the Athabasca River, & the proposed immediate terminus of the Edmonton District Ry., there will probably be quite a lively little town there before next fall."

Brockway Bros., Douglass, Wyoming, have issued a folder in which they say:—"Alex. Brockway is now at Edmonton, Alberta, superintending the construction of boats, securing practical Mackenzie River boatmen, etc., for an expedition of 100 men to the gold fields via the Mackenzie River route. The start will be made, under his guidance, as soon as



HUDSON'S BAY STEAMER & TRADERS' BOATS AT ATHABASCA LANDING, ALBERTA.

river & the resorts along it are. The New York will have a speed of 20 miles an hour, & she will probably be the fastest steamer on the St. Lawrence. The boat will be ready for business the latter part of June. W. Murphy is building the steamer in Buffalo. The interior of the boat is finished in Empire State style, & no expense will be spared."

Superintendent Piers, of the C.P.R. Steamship Lines, reports that the Upper Lakes steamers will be ready much earlier than usual, on account of the early opening of navigation. "It is too bad," he says, "that we have to send the Manitoba to a U.S. port to be docked again this spring. It is deplorable that Owen Sound has not a dry dock fit to take its own vessels. With such facilities as the Kennedys have there, a dry dock should be a very good paying investment. It is certainly humiliating that Canadian vessels have to go to Detroit or Port Huron to be docked." Mr. Piers thinks Owen Sound should have no difficulty in securing Government aid towards the construction of much-needed docking facilities on the northern lakes. The size of the vessels must continue to increase, & there is now almost an absolute demand that the matter be taken up.

the river is clear of ice in the spring, which will be about the middle of April. We are also constructing a small river steamer for the Yukon River. This is to be of light draft, powerful & speedy. It will start up the Yukon with its load of passengers & freight as early in the spring as the river is free from ice—about June 15. It will be in charge of a first-class river man, & will meet the Mackenzie River party at La Pierre's House, near the head of the Porcupine, on or about July 1. Assistance will there be given to those of the Mackenzie River party who desire to cross over to the Yukon River. These men, with their outfits, will then be taken with the least possible delay, by our Yukon boat, to Dawson City or any intermediate point at which they may choose to land."

In British Columbia Waters.

The Barge Transfer no. 1, built in C. McAlpine's shipyards, Vancouver, for R. Duns-muir & Sons, Victoria, was launched Mar. 11. Her dimensions are, length 190 ft., breadth 40 ft., depth 12 ft. She is of larger tonnage than any sea-going craft yet built at Vancouver.

One of the largest scows on the inland waters has been launched at Nelson. It is 200 ft. long & 38 wide, with a capacity of 1,000 tons, & was built by the C.P.R. as a car ferry, to run between the Kootenay Lake terminus of the Crow's Nest Branch & Nelson, accommodation being provided for a train of 15 loaded cars.

The Dominion Government has been advised that the British survey ship *Egeria*, Capt. M. H. Smythe, now at Esquimalt, B.C., will at once begin a survey of the west coast of Vancouver Island, and the B.C. coast north as far as Wrangel. She was commissioned last year for this work, which is to be done by order of the Imperial naval authorities.

The addition of one boat to the line of steamers on the Kootenay River ensures excellent transportation facilities. The *J. D. Farrell*, recently built by Capt. McCormack, is modern in its appointments, & will be supplied with an electric searchlight, so that it can run at night as well as during the daytime. The *North Star* & *Gwendoline* have been repaired & refitted.

The Department of Marine has called for tenders for the erection of a wooden lighthouse & fog-bell tower on Prospect Point, at the entrance to the Narrows, Burrard Inlet, B.C. Notice has been given the Marine Department that the California Rock buoy, Favorite Reef buoy, Poundstone Reef buoy, & Vanderbilt Reef buoy, as also several buoys in Peril Straits, B.C., are missing.

J. H. Moir, New Westminster, B.C., writes us that he is building the following steam boats: For the Hudson's Bay Co., 2 stern wheelers, dimensions of each, length 140 ft., beam 30 ft., depth of hold 4½ ft. For the Rothsay Steamship Co., 1 stern wheeler, length 143 ft., beam 30 ft., depth of hold 4½ ft. For Klondike Mining Co., 2 stern wheelers, length 145 ft., beam 30 ft., depth of hold 4¾ ft. For London Steamship Co., 1 stern wheeler, length 140 ft., beam 30 ft., depth of hold 4½ ft. These dimensions are over all on the hull only, & do not include stern wheel timber length outside. For Fraser River Steam Tug Co., Capt. French, 1 tug, length 85 ft., beam 16 ft., midship depth 7 ft. For Capt. Myers, 1 steam tug, length 70 ft., beam 14 ft., midship depth 6½ ft. All these boats are intended to be in the water in May.

W. Galt, a well-known Toronto newspaper man, has been appointed Manager of the Toronto Ferry Co. in place of W. A. Esson, resigned.

The Yukon Trade.

On the Yukon, at a distance of from 700 to 800 miles from the sea, there are many points where the river is 20 miles wide.

Six or 7 steamships, averaging about 3,500 tons each, are now on their way to Vancouver from various points, to engage in the Yukon trade.

F. C. Davidge & Co., Victoria, have bought the Columbia River stern-wheel steamer *Ramona*, & will run her between Wrangel & Telegraph Creek.

The arrival of the C.P.R. Co.'s S.S. *Tartar* at Vancouver April 1 caused quite a stir in that city, & no little surprise that the Co. had been able to secure so fine a ship for its Yukon service. She was followed on April 12 by her sister ship the *Athenian*.

So numerous are the steamers now engaged in the northern service of the Pacific Coast that it is frequently said that in making the trip one never loses sight of vessels going or coming from the time he starts his trip until he ends it, though the voyage extends over a stretch of upwards of 1,000 miles.

The C.P.R. will make Wrangel Island a live place. C. E. Perry, C.E., who had charge of the Slocan branch of the C.P.R., has located at Wrangel, where the C.P.R. has acquired Sylvester's interest in the water front, paying for it \$11,000, in addition to which the residents paid \$3,000.

The Kootenay-Cariboo Mining & Investment Co., with headquarters at Toronto, advertises 250,000 shares of its treasury stock at 25c. a share, stating that the net proceeds are to be devoted to the construction & equipment of 3 steamers to run from the head of Teslin Lake to Fort Selkirk & Dawson City.

The importations of eastern goods into Victoria have become so heavy in consequence of the Yukon outfitting trade that the daily mail steamer *Charmer* is unable to carry all the merchandise brought for that city over the C.P.R. In consequence the C.P.N. Co. has decided to make extra trips with the *Yosemite* & *Willapa* until the rush of freight is over.

Evans, Coleman & Evans, of Vancouver, have raised their wharfage rates to \$1 a ton, owing to the extra hands necessary in connection with Klondike business. The extension of their wharf will be completed within a month. The addition is 275 ft. into the inlet, forming with the present wharf an L. A warehouse will be erected the whole length of the extension, 60 ft. in width.

Orders have been received by the inspectors of steamboats at B.C. ports, that all steamers sailing from there, British or foreign, are to be rigidly inspected & not cleared by the Collector of Customs until they can show certificates that they have passed a favorable inspection. This action on the part of the Canadian authorities was taken to assure the safety & comfort of travellers, & to guard against catastrophes.

Mr. McInnes, of Vancouver, has been to New York in connection with a steamboat service he is organizing. His company has secured the S.S. *Garonne*, 4,000 tons, formerly of the P. & O. line, which left England April 2 with a full cargo of freight and passengers. The *Garonne* will run from Vancouver to St. Michaels, starting June 10, & making regular trips all season. At St. Michaels the steamer will connect with 4 river boats that will ply between there & Dawson City—the *Paul Walters*, *Lulu Stewart*, *City of Chicago* & *Mascot*. This route & the one via Wrangel & up the Stikine River are, in Mr. McInnes' opinion, the only practicable routes from the Pacific Coast to the Yukon. All others are attended

with great hardship and expense, & at certain seasons, which are never known, it is impossible to travel over Skaguay & Dyea routes.

The Government steamer *Quadra* left Vancouver on Mar. 29th, having on board L. Coste, Chief Engineer of the Department of Public Works, who proceeds to the Stikine River to make an examination with a view to improvements. He was accompanied by a staff of engineers, surveyor & assistant. The party will survey the Stikine River for 100 miles to ascertain what improvements are necessary to overcome the obstructions to navigation. The *Quadra*, after landing the party, will return to New Westminster to tow north the snagboat *Sampson*, which will be employed in removing snags, rocks or other obstructions which render the navigation of the Stikine dangerous. Mr. Coste will also go down the Hootalinquia & on to Dawson, & a survey will be made of the Yukon from Dawson to the Alaska boundary. Chief Engineer Anderson of the Marine Department has also gone to the Pacific coast for the purpose of determining at what points aids to navigation are necessary, and to make other observations in the interests of the public service bearing upon communication with the Yukon territory.

Sir Hibbert Tupper, in recently introducing his bill in the House of Commons to amend the act respecting the coasting trade, explained it was designed to save to Canadian vessels a portion of the carrying trade of the Yukon. They were prevented by the U.S. coasting laws from participating in the carrying trade to Alaskan ports, & he thought it right that the trade to the Stikine should be preserved to them. The United Statesers were, he said, taking the extreme course of preventing goods from one U.S. port, inland or otherwise, being carried by a foreign vessel for any portion of the voyage. For instance, it had been ruled to be a violation of the U.S. coasting laws for goods from Seattle to be transhipped into Canadian vessels at Victoria & carried on to Dyea & Skaguay. On our side we are going on in the good-natured way, without regard to new & harsh enforcement of the U.S. laws. For instance, as in the case of the Alaska, a U.S. vessel has taken goods from Fort Wrangel to Glenora, the goods having previously been taken to the U.S. port of Wrangel from Victoria in another U.S. vessel. His bill would prevent this being done.

The Yukon rush still continues unabated at B.C. ports. There are daily sailings carrying large numbers of fortune-seekers & immense quantities of supplies. So great was the northward movement in the early part of the season that every available vessel was pressed into service, some of them being battered old hulks which, having become unseaworthy, were hurriedly patched up to meet the emergency of the occasion. The lack of experienced pilots in the intricate waters of the northern coast, which in the inner channels through the islands fringing the mainland are difficult to navigate, added to the dangers of the trip, which was taken by some Yukonites with grave misgivings that were not groundless, as evidenced by several disasters. This does not apply, of course, to all the steamers in the Yukon trade, but to enough of them at all events to make the addition of such staunch sea-going vessels as the *Tartar* & *Athenian* of the C.P.R. Co.'s line to the fleet one of more than ordinary importance. It is understood they will take the outside course on the route to Wrangel & entirely avoid the dangers of the inner waters of the Pacific. Their capacity is 500 passengers a trip, or 1,000 a week. With this acquisition to the carrying facilities, the great rush which is anticipated to reach its height very shortly will be amply taken care of from Vancouver & Victoria northward.

NOTICES TO MARINERS.

By the Dominion Department of Marine.

All bearings, unless otherwise noted, are magnetic & are given from seaward, miles are nautical miles, heights are above high water, & all depths are at mean low water.

No. 12, Mar. 2.—1. Hand Fog Horns at Lightstations.—Hand fog horns are supplied to the undernamed lightstations in Nova Scotia, in addition to those already noted in the Canadian List of Lights & Fog Signals, 1897. The fact should be entered in the fog signal column of the list. The horns are used only in answer to signals heard by the keepers in thick weather. 130, Candlebox Island; 140, Stoddart Island; 221, Wedge Island; 240, Eddy Point.

2.—No Cage on Thrumcap, Cape Breaker & Fourche Bell Buoys.—The cages have been permanently removed from the bell buoys on Thrumcap shoal, in Halifax harbor, on the Cape breaker in the approach to Canso harbor, & off Fourché head, Cape Breton. This notice affects Canadian List of Lights & Fog Signals, 1897, nos. 198, 230 & 260.

3.—Color of Eddy Point Lighthouse.—There is a black diamond or lozenge-shaped day mark painted on the white seaward face of the lighthouse tower at Eddy Point, south entrance of the Gut of Canso. This notice affects Canadian List of Lights, 1897, no. 240.

No. 13, Mar. 8.—Fog Alarm Re-established at Lepreau.—Referring to Part 1 of Notice to Mariners, no. 7 of 1898, further notice is given that a new fog alarm building has been erected on the site of the burnt building, on the extremity of point Lepreau, on the Bay of Fundy coast of New Brunswick, & that the operation of the steam fog horn will be resumed to-morrow. The horn will give blasts of 5 seconds' duration, with intervals of 25 seconds between the blasts, as formerly. Duplicate machinery will later be placed in the building. This notice affects Canadian List of Lights & Fog Signals, 1897, no. 31.

No. 14, March 22.—Rock in Johnstone Strait, B.C.—The master of the ship Richard III. reports that while passing through Johnstone Strait, at low water of a long run out, he struck on a sunken rock which he considers must be situated where the 7-fathom sounding of Ripple Shoal is marked on Admiralty chart 581. The Richard III. was drawing 19 ft. 6 in. at the time she struck. Lat. N. 50° 24' 00"; Long. W. 125° 51' 20". An examination of Ripple Shoal will be made by the Canadian Government at the first opportunity. This notice affects Admiralty charts 581 and 1917 and B.C. Pilot, 1888, pg. 207.

By the U.S. Hydrographic Office.

Lake Huron—Sand Beach approach.—The schooner Presto stranded at Sand Beach, Mich., Oct. 16, 1897. The Presto struck in about 7 ft. of water close to & outside of North breakwater of Sand Beach harbor of refuge, Lake Huron. G. W. Plough, Keeper of Sand Beach life-saving station, reports that the wreck soon went to pieces, & a part, or most of the hull, came ashore. The remaining portion of the wreck is not an obstruction to navigation.

Lake Huron—Wreck of steamer Egyptian.—The steamer Egyptian caught afire & burned to the water's edge on Lake Huron on Dec. 2, 1897, & sank; she is no obstruction to navigation, & it is unlikely any attempt will be made to raise her. The wreck lies 13 (15) miles SE. 1/8 E. (S. 46° 30' E.) from Thunder Bay Island lighthouse, in 37 1/2 fathoms of water.

St. Clair River—Wrecked schooner Home.—The Kendall Marine Reporting Co. has furnished the following information: "Concerning the wrecked schooner Home, she has not been removed. It is possible that the vessel has been shifted a short distance by the river ice. She is a very dangerous obstruction, & ought to be removed."

Lake Erie—Canada—Off Talbot point.—M. Payne, Sub-collector of Customs, Port Stanley, Ont., reports that the spars of the wrecked schooner Groton disappeared early in Jan., 1898, & were supposed to have been cut off by the ice. The hull of the vessel is no doubt in the same spot she sank, as both anchors are down, & she lies in water so deep that ice can not disturb the hull. The Groton sank Nov. 11, 1897.

Lake Erie—Canada.—The owners of the sunken steamer Louis Shickluna, Sylvester Bros., Toronto, Ont., report it is not at all likely they will attempt to raise the wreck, owing to the great depth of water. The steamer was sunk in Lake Erie by collision May 29, 1897, about 4 1/2 (5) miles NE. by E. (N. 56° E.) from Long Point (or North Foreland) light tower, in 25 fathoms of water.

Lake Erie—Lorain.—The shipyard is situated on the right (east) bank of the Black River, in the town of Lorain. It lies west of Fifth street, is above Erie avenue viaduct, and below the N.Y.C. & St. L.R.R. bridge. There is 1 dry dock & 2 slips at the yard. The entrance to the dry dock is about 1,250 ft. above Erie avenue viaduct. Slip no. 1 is just above the dry dock, & slip no. 2 is adjacent to no. 1. The dry dock is 559 ft. 6 in. long over all & 500 ft. on the keel blocks. Width at bottom of dock 56 ft., at top 102 ft. Depth over sill at zero of gauge 17 ft. Slip no. 1 is 531 ft. 7 in. long, 125 ft. wide, & 14 ft. deep. Slip no. 2 is 476 ft. 10 in. long, 125 ft. wide, & 14 ft. deep.

Lake Ontario—New shoal spot southwesterly from Charity shoal.—A. R. Hinckley, Cape Vincent, N.Y., reports there is a rocky spot with only 15 ft. of water over it lying 1 1/8 (1 1/4) miles SW. 3/4 W. (S. 53° 30' W.) from Charity Shoal gas buoy, in the eastern end of Lake Ontario.

Lake Ontario.—The steamer Rosedale grounded on East Charity shoal, eastern end of Lake Ontario, just before the close of navigation for 1897. The steamer first struck on the southern end of upper East Charity shoal; she backed off, but grounded again. The vessel was released Dec. 15, 1897, & carried into port. The Rosedale was drawing 15 ft. when she struck, & soundings on the spot gave 2 fathoms, or a little more. The shoal is reported as a group of boulders, covering a gravelly & rocky area of about three acres, with 18 feet of water all around. Bearings from the spot are as follows: Tibbetts Point lighthouse NE. 1/2 E. (N. 50° 30' E.) Pigeon Island lighthouse NW. 7/8 W. (N. 54° 30' W.). East Charity shoal is a rocky ridge, shallow on upper & lower ends, with 3 to 4 fathoms between the two spots. Locally, this shoal is known also as South Bar; the bar, trending NW.-SE., is about 3/8 (1) mile long. Some of the local mariners call the upper shallow spot South Bar, & the lower shallow spot East Charity Shoal. The upper spot, where the Rosedale grounded, lies SW. 1/2 W. (S. 50° 30' W.) from Tibbetts Point lighthouse; it bears ESE. 7/8 E. (S. 77° 30' E.) from Charity shoal gas buoy, & is distant from main Charity shoal 1/8 (3/4) mile with good channel between them. The lower spot of South Bar, or East Charity shoal proper, lies SW. 1/4 S. (S. 42° 30' W.) from Tibbetts Point lighthouse. East Charity shoal is plainly indicated on H.O. chart no. 1477, & is mentioned on page 193 of Sailing Directions for the Great Lakes (H.O. Publication no. 108, published in 1896).

Vessel Officers for 1898.

CALVIN & CO., Garden Island, Ont.: Steamers—D. D. Calvin, Master, A. Malone; Engineer, T. C. Smith. Bothnia, Master, G. Brian; Engineer, R. Veech. Armenia, Master, C. Coons; Engineer, G. Hazlett. Chieftain, Master, J. Sullivan; Engineer, T. Gray. Parthia, Master, D. Lefavre; Engineer, G. Sauve. Johnston, Master, D. Lefavre, Jr.; Engineer, E. Phelix. Bluebell, Master, J. Dix; Engineer, F. Lefavre. Reginald, Master, J. Doyle; Engineer, J. Kennedy. Schooners—Ceylon, Master, H. Smith. Augustus, Master, J. Achee. Valencia, Master, J. Ferguson. Norway, Master, J. Harris.

CANADIAN PACIFIC RY.; Upper Lakes Steamships—Manitoba, Master, E. B. Anderson; Mate, T. Martin; Second Engineer, R. Chalmers; Purser, W. Bethune; Steward, M. Cooney. Alberta, Master, J. McAllister; Mate, L. Pyette; Second Mate, A. Brown; Chief Engineer, A. Cameron; Second Engineer, Findlay; Purser, J. Lane; Steward, J. Brown. Athabasca, Master, G. McDougall; Mate, M. McPhee; Second Mate, A. McNab; Chief Engineer, W. Lockerbie; Second Engineer, J. Davey; Purser, J. McEdwards; Steward, J. Gardhouse.

MATTHEWS LINE, Toronto: Steamers—Niagara, Master, J. Morgan; Engineer, T. Mills. Clinton, Master, J. Joyce; Engineer, J. Gray. Barges—Lisgar, Master, J. Fahey. Grimsby, Master, S. Atkinson. Schooner—Clara Youell, Master, N. J. Colwill.

MONTREAL TRANSPORTATION CO., Kingston, Ont.: Steamers—Active, Master, E. Bennett; Engineer, J. Hamilton. Bronson, Master, J. Murray; Engineer, R. Hepburn. Glide, Master, T. Murphy; Engineer, G. Tuttle. Glengarry, Master, G. Kean; Engineer, J. Evans. Jessie Hall, Master, G. Martin; Engineer, A. Barton. J. A. Walker, Master, J. Boyd; Engineer, G. Boyd. D. G. Thomson, Master, J. Murray; Engineer, G. Henderson. Bannockburn, Master, J. Irving; Engineer, R. Taylor. Rosemount, Master, J. W. Mawdesley; Engineer, H. Thurston. Lake schooners—Kildonan, Master, M. Lefebvre. Minnedosa, Master, R. G. Irwin. Selkirk, Master, H. Colvin. Winnipeg, Master, J. Kirkwood. Melrose, Master, J. Fleming. Dunmore, Master, J. Phillips. River barges—Alberta, Master, F. Poirier. Acadia, Master, L. Hebert. Bella, Master, P. Lalonde. Cleveland, Master, J. D. Perron. Chicago, Master, A. Charlebois. Colborne, Master, B. Sauvie. Corn Crib, Master, A. Charlebois, Jr. Cornwall, Master, H. Boyer. Detroit, Master, T. Davust. Dorchester, Master, J. Lalonde. Eagle, Master, A. Monnette, Jr. Hector, Master, T. Hebert. Glengarry, Master, A. Major. Harvest, Master, J. Bradley, Jr. Iowa, Master, J. Davust. Jennie, Master, M. Moreau. John Gaskin, Master, T. Leduc. Lancaster, Master, J. Page. McCarthy, Master, E. R. Roy. Montreal, Master, M. Lefebvre. Maggie, Master, A. Monnette. Nebraska, Master, C. Leboeuf. Regina, Master, O. Trudell. Senator, Master, A. Lalonde. Star, Master, E. Secotte. Toledo, Master, F. Leduc. Toronto, Master, A. Levoie. Wheat Bin, Master, A. St. Marcelles. Cobourg, Master, F. Lafrance. Brighton, Master, N. Mallette. Kingston, Master, A. Hebert.

NIAGARA NAVIGATION CO., Toronto: Steamers—Chippewa, Master, I. McGiffin; Engineer, R. McCaul. Corona, Master, W. H. Somes; Engineer, J. Walsh. Chicora, Master, R. Clapp; Engineer, H. Parke. Oniagara, Master, H. McIntyre.

NORTH SHORE NAVIGATION CO., Collingwood, Ont.: Steamers—City of Collingwood, W. J. Bassett, Master; W. J. McQuade, First Officer; M. Ironside, Second Officer; C. Robertson, Engineer. City of Midland, F. X. Lafrance, Master; W. W. Cox, First

Officer; W. Whipps, Chief Engineer; P. L. Patterson, Purser. City of Parry Sound, S. Walton, Master; J. L. Smith, Chief Engineer; H. A. Currie, Purser. City of Toronto, A. C. Cameron, Master; D. McQuade, Chief Engineer & Purser.

NORTHWEST TRANSPORTATION CO., Sarnia, Ont.: Monarch, Master, E. Robertson; Engineer, E. W. McKeane; Purser, J. H. Ronan; Steward, G. E. Morrison. United Empire, Master, J. McNab; Engineer, S. Brisbin; Purser, W. A. Young; Steward, T. R. Ingles.

TORONTO FERRY CO., Toronto: Steamers—Primrose, Master, C. Tufford; Engineer, H. Brownley. Mayflower, Master, G. Moulton; Engineer, E. Abbey. Shamrock, Master, T. Jennings; Engineer, D. Foley. Thistle, Master, A. Martin; Engineer, M. Murphy. Kathleen, Master, J. Fertile. Island Queen, Master, J. Tymon; Engineer, T. Good. Luella, Master, M. Corcoran; Engineer, J. Smiley.

Fort William Grain Shipments.

At the recent annual meeting of the Winnipeg Grain Exchange, President Bawlf, in the course of his retiring address, said: "During 1897 there was a very large increase in the capacity of elevators for handling grain from farmers, & there is no grain producing country in the world to-day that is better equipped for the receiving, cleaning & shipping of grain than Manitoba.

Owing to the very high prices that were paid for wheat the marketing of the crop of 1897 was pushed vigorously, farmers being anxious to sell & deliver wheat in order to take advantage of the high prices. This marketing taxed the transportation companies to their utmost. The movement of wheat east from Manitoba during October & November was the largest in the history of the country. The bulk of it found its way out of the country by the C.P.R. to Fort William, a small percentage only going by Duluth.

I do not think many members of the Exchange or the public generally have any idea of the importance of Fort William as a shipping port, & in order to convey some idea of the quantities of grain shipped, I give the following figures showing the number of bushels of wheat shipped during the past three years:

Season of 1895..	10,587,866 bushels.
" 1896.....	12,689,000 "
" 1897	17,600,000 "

Of the quantity in the latter year, 12,928,000 bus. was shipped for export, 11,000,000 went by way of Buffalo, the bulk of it in American bottoms; while 2,000,000 found its way to the seaboard by way of Montreal. In 1897 there was shipped from Montreal about 10,000,000 bus. of wheat against 17,000,000 from Fort William. The total shipment of grain of all kinds from Montreal for 1897 (wheat, corn, peas, oats, barley & rye) was 27,000,000 bus. It will be observed that Fort William shipped nearly double the quantity of wheat, in 1897, that was shipped from Montreal.

In connection with the port of Fort William, the Exchange has been endeavoring during the past year to have better appliances used for keeping navigation open a greater length of time than hitherto. In 1895 the last vessel left Fort William on December 6. In 1896 navigation closed about November 30, but the Algonquin sailed from Port Arthur a few days later. In 1897 the last vessel loaded at Fort William on December 9, & vessels could have loaded at Fort William as late as December 15 without any difficulty. In order, however, to maintain navigation to so late a date as this, it is necessary that there should be more powerful boats employed on the river than are now there, & I think it is clearly the duty of the Government to take this matter up with vigor & see that a port of the importance of

Fort William has not to be closed prematurely. There is no reason why Fort William should not be kept open longer than the neighboring port of Duluth.

C.P.R. Stikine River Boats.

Capt. Troup, Superintendent of the C.P.R. Co.'s B.C. Inland Steamers, wrote us from Vancouver, March 19:—"We have now under construction 12 steamers for the Stikine River trade, as follows:—Three steel boats, each 140 ft. long, 30 ft. wide, 5 ft. deep, building at Toronto. These will have 16 in. cylinders 6 ft. stroke, with locomotive boilers to carry 175 lbs. steam pressure. These boats will be shipped to Vancouver in sections, & set up here, where the house work will be put on them, & then they will be sent to Fort Wrangel.

"We are building in Vancouver 5 wooden boats as follows:—One boat 150 ft. long, 30 ft. beam, 5 ft. deep, with engines 17 in. cylinders, 6 ft. stroke, 175 lbs. steam pressure. Three boats 145 ft. long, 30 ft. wide, 5 ft. deep, all with cylinders 16 in. bore, 6 ft. stroke. One boat 120 ft. long, 22 ft. wide, 4 ft. deep, with engines 12 in. by 4½ ft. The 3 steel boats & 3 of the wooden boats will be given 1st class passenger accommodation; 2 of the wooden boats will be fitted up as freight steamers only.

"We are building in Seattle 4 steamers for the same trade, 2 of them to be 150 ft. long, 32 ft. beam, & 2 to be 145 ft. long, 30 ft. beam. One of these is to be fitted as a passenger boat, and the other 3 as freight steamers.

"The passenger accommodation on these steamers will consist of 18 and 20 staterooms to the boat, besides accommodation for the crew. Each stateroom will have 1st class spring & hair mattresses, & be as comfortable as the steamers in the Kootenay district. Modern plumbing and electric lights will be used, in fact these boats will be as good of their class as are built in any part of the world. The names decided upon so far are Geo. M. Dawson, Ogilvie, McConnell, Dalton, Walsh, Constantine. The boats have all been designed by me, & we expect to have 3 of them completed by April 5, & about four of the others completed by April 20, & the last of the 12 should be at Fort Wrangel early in May."

A special train, conveying sections of one of the steel river steamers built at the Polson Engine Works, Toronto, arrived in Vancouver the last week of March. Before shipment from Toronto, the steamer was set up, inspected & then taken apart, 100 men being employed for this purpose. Thirty men from the Polson yard preceded the boat to put it together on arrival. W. E. Redway, Superintendent of the Polson Iron Works, who is in Vancouver, reports the steamer well under way, the riveting being almost finished. Three wooden vessels of the same type are under construction in the same yard, but the steel steamer arouses the greatest interest.

Lake Carriers' Association.

A meeting was held at Cleveland, Ohio, Mar. 22, to fix the salaries of the officials of the Association, including the shipping masters, & adopt a schedule of wages for the men employed on boats. The officers' salaries will be the same as last year. The new schedule of wages adopted, which went into effect April 1, is the same as the opening card for season of 1897. The outlook in the freight situation is about the same as it was then, & the members decided to make no change. The steamers are divided into 3 classes, & the consorts & sail vessels into 2 classes. Steamers of the 1st class have water bottoms & triple expansion engines. The 2nd class includes all metal steamers not included in class 1, & all wooden steamers with triple expansion & with compound engines, & the 3rd class takes in all the small steamers with high

pressure or low pressure engines, covering all boats not included in the two former classes. The schedule follows:

ON STEAMERS.

	1st class per month	2nd class per month	3rd class per month
Chief engineer	\$105	\$90	\$60 to \$75
Second engineer	70	65	50
First mat:	75	65	50 to 60
Second mate	50	40
Cooks	50	45	40
Helpers to cooks	15	12
Firemen	30	30	25 to 30
Wheelmen	30	30	25 to 30
Lookouts	30	30	25 to 30
Deckhands	15	15	15
Oilers	30

ON CONSORTS AND SAIL.

First mates	45	\$30 to \$40
Second mates	35
Cooks	30	20	25
Seamen	30	20 to 25

Firemen fitting out & laying up, \$1.25 a day.

A. R. Rumsey was re-appointed chief shipping master. The other shipping masters are: J. W. Hanson & Capt. W. Anderson, Chicago; Capt. Frank Brown, South Chicago, vice M. Fish; Capt. Lemon, Milwaukee; Capt. Fletcher, Buffalo; Capt. P. Mitchell, Toledo; Capt. D. Harrington, Ashtabula, & W. Wall, assistant, Cleveland.—Marine Record.

Richelieu & Ontario Appointments.

At a meeting of directors Mar. 23, H. Bouchard, who has been with the company for 17 years as steward of different boats, was appointed Inspector of Stewards, a new office. His headquarters will be in Montreal, but his duties will call him all over the route wherever complaints of passengers or other matters may demand his attention. The resignation of Capt. Tranchemontagne, of the Chambly, who has been 17 years with the Co., was accepted.

The appointments of stewards & engineers were made as follows:—Canada, Steward, G. Lefebvre; Engineer, E. Lacroix. Carolina, Steward, T. Payne; Engineer, L. Latulippe. Quebec, Steward, J. B. Barbeau; Engineer, J. B. Gendron. Montreal, Steward, E. Guerin; Engineer, F. X. Hamelin. Three Rivers, Steward, E. Boivin; Engineer, F. Gendron. Berthier, Steward, L. S. Masse; Engineer, D. Laviolette. Terrebonne, Steward, J. E. Masse; Engineer, M. Sheriden. Chambly, Steward, M. Ayott. Mouche-a-Feu, Engineer, P. Bouchet. Hochelaga, Engineer, A. Chapullon. Longueuil, Engineer, Boncage. Hossana, Engineer, H. Gendron. Laprairie, Engineer, not appointed; P. McLean appointed Captain. Hamilton, Steward, E. Marcil; Engineer, G. Marshall. Corsican, Steward, L. Jolly; Engineer, J. Parker. Algerian, Steward, W. J. Clark; Engineer, T. Wadsworth. Bohemian, Steward, F. M. Hepburn; Engineer, not appointed. Passport, Steward, D. Cambridge; Engineer, W. Taylor. Columbian, not appointed. The balance of the appointments are arranged as follows: Each pilot appoints his 2nd pilot & wheelman; the 1st mate employs his own deck hands; the steward his own waiters & cooks, & the engineers their own stokers & other assistants, which make up the full complement of each crew.

The Co. is making energetic efforts to secure a large share of the tourist travel for Canada & to this end has already agents on the road working it up; W. A. Claney, formerly passenger agent of the Co. in the Eastern States; H. F. Chaffee, in the Southern States, & W. A. Fletcher, in the Western States.

ELECTRIC RAILWAYS.**A Halifax Sunday Case.**

In November last an information was laid before the Stipendiary Magistrate of Halifax, N.S., by J. Grierson, charging the Halifax Electric Tramway Co. with having procured T. Burgess, a motorman, to perform servile labor on Sunday, Nov. 21, by driving, managing, guiding, controlling & operating a tram car propelled by electricity & owned by the Co. for the conveyance of passengers. The Co. applied to the Supreme Court for an order to prohibit the Magistrate from hearing the case, on the grounds that chapters 57, 22 & 32 of the acts of the Legislature of Nova Scotia for 1889 are ultra vires, & not within the powers conferred upon the Legislature by the B.N.A. Act; & that the Magistrate had no jurisdiction, either at common law or by statute, to hear or determine the charge. Justices Ritchie, Graham & Townshend agreed in favor of the defendant's contention; Chief Justice McDonald dissenting. A writ was granted to prohibit the Stipendiary Magistrate from hearing the case. Borden & Chisholm for the Informant; Pearson & Covert for the Tramway Co.

Judge Ritchie, in the course of his judgment, said: "Chapter 159, Revised Statutes of N.S., 3rd series, being part of the criminal law, the Local Legislature of Nova Scotia had, in my opinion, no power to alter or amend any of its sections, & any legislation purporting to have that effect is ultra vires the Local Legislature. I wish to be distinctly understood as giving no opinion as to whether the Local Legislature could or could not, by any legislation, prevent the performance of servile or other labor on Sunday; but I think it cannot be done in the way attempted—that is, by trying to amend the criminal law. The Stipendiary Magistrate for the city of Halifax should be prohibited from convicting the Halifax Electric Tramway Co. from any breach of the acts of the Local Legislature of N.S., purporting to amend chapter 159 of the Revised Statutes of N.S., 3rd series, or any act in amendment thereof."

Judge Graham, in the course of his judgment, said: "Coming to the amendments I suppose the Province might pass legislation in regard to this matter, & perhaps secure the same end under the head 'property & civil rights' or some other head. But it appears to me that the Act, 1891, cap. 32, is not an attempt to do this. It is a bona-fide attempt to amend by adding sections to an act which I have just endeavored to show is a part of the criminal law. The 1st section expressly says so. Moreover, the person who offends by employing, hiring or procuring his employe to perform servile labor is declared 'guilty of performing servile labor on Sunday within the meaning of the second section of this act,' i.e., the principal act. It is an attempt to deal with the criminal law—to make an offence equal to a crime that the Parliament of Canada alone could create. In my opinion the prohibition ought to issue to prevent the prosecution from proceeding under these supposed amendments."

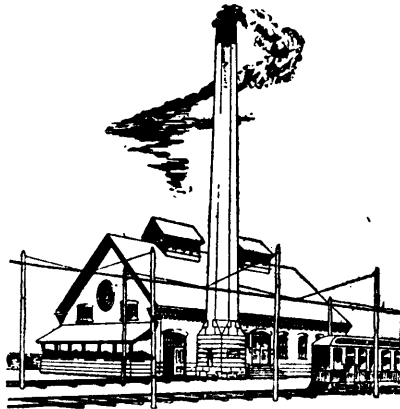
Chief Justice McDonald, in his dissenting judgment, said: "I have endeavored to show that the Stipendiary Magistrate of Halifax has jurisdiction to inquire into & adjudicate upon a charge of an alleged violation of the principal act, & that the amendments mentioned do not affect that jurisdiction. The charge is that this defendant corporation procured & hired persons to do servile work for them & in their interests on the Lord's Day. I think the Stipendiary Magistrate of Halifax has jurisdiction to adjudicate upon that charge, & that consequently this application should be refused with costs. I am not sorry that I feel obliged to come to this conclusion. The Parliament of Canada has made no provision with a view

to enforce abstinence from ordinary labor & occupation on the Sabbath, leaving the subject in the case of N.S. to be dealt with by the Local Legislature; & I should be sorry to see the sanction which our statute gives to the sacredness of the Sabbath withdrawn."

In response to an enquiry, Pearson & Covert, who represented the Tramway Co., write THE RAILWAY & SHIPPING WORLD: "We have an old Act in existence in this Province which was a Nova Scotia Act before Confederation. This states that any person performing servile labor on the Lord's Day shall be fined. It was quite clear that 'person' mentioned in this Act did not mean a corporation. So certain persons here, who constitute the Sunday Observance Society, had our Legislature pass certain laws since Confederation. These are chap. 57 of 1889, chap. 22 of 1890, & chap. 32 of 1891. These chapters are stated to be amendments of the old law. Our argument was that the Sunday Observance Law, in force before Confederation, was part of the criminal law of the Province, & had been regarded as the criminal law since the days of Charles II., when the 1st act on the subject was passed, & that our Legislature had no authority to amend this old Act, because it formed part of the Criminal Law of Canada by reason of section 129 of the B.N.A. Act. The decision went on the point that this was an amendment of the Criminal Law."

A Hamilton Power House.

The Hamilton Radial Electric Ry. Co.'s power station, a view of which is given on this page, is erected on the Hamilton Beach near Burlington, & is the most substantial building of its kind erected anywhere in the locality of Hamilton. The building was designed & erected under the supervision of Charles Mills, architect, of Hamilton, & stands as a monument of first-class construction in every way. The soil on which it stands was not of the best for a structure of this nature, it being a very heavy building for the purposes for which it was required. The size is 53 ft. 9 in. x 99 ft., & all of press bricks made at Beamsville. The foundation walls are also of press brick, & the footings are in 2 courses of 10 in. thick, each of concrete.



The roof is slated with Rockland slate & is carried by 7 large trusses. The lantern sashes on top are operated by a special device from below, & are so arranged to work that the wind cannot penetrate. The winds that sweep this building are at times terrific, the location being between Hamilton Bay and Lake Ontario. The chimney is 108 ft. 3 in. high, & is also of press brick. The base is 16 ft. square & the top on the inside 4 ft. There is one thing that speaks well for the construction of the whole building, & that is, not a single crack of any description has appeared at all in the work.

The station supplies current for 9 miles of

road, & in it are two 15x28x34 L. H. Tandem Wheelock engines & 2 Canadian General M.P. 4-200-450 dynamos & 3 steel boilers, with room for 1 more engine & 2 more boilers if necessary. The fly-wheels are 16 ft. 6 in. in diameter, & 26 in. face. The total cost of the building was \$10,000.

Electric Railways in Canada.

Electricity was first used as a motive power in Canada in 1883. A short piece of track was laid on the grounds of the Toronto Industrial Exhibition. The motor did not "mote" to any extent, owing to the dynamo used on the car, a double armature one, with only one pole piece to each armature. The following year, 1884, produced the first practicable road. In comparison with the modern electric car it would be thought a crude affair, but it "got there," though with the expenditure of a considerable amount of fuel & supplies. The current was taken from copper slips laid in a wooden box between the rails. In 1885, the track was lengthened & the overhead wire & trolley-arm used. In 1891, the possibility of combating the real old-fashioned winter in the deep snow area which includes Quebec, Montreal & Ottawa, was successfully demonstrated by the Ottawa Electric Ry. Co. Montreal followed in 1892 & Quebec in 1897.

In 1896 there were 30 railways in Canada, the motive power of which was electricity, with 569 miles of railway & an equipment of 947 motor cars, 360 trailers, 62 sweepers & 1,315 motors. The number of miles run during the year was 22,772,631, & the number of passengers carried was 73,972,414, giving 3¼ passengers carried to each mile run.

The first city in Canada & in the world to have established in it a special electric heating service from a central station was Ottawa. Electric mail cars were first used in Ottawa on Nov. 9, 1893, to convey Her Majesty's mails from the central post office to the railway stations. In July, 1886, the streets of Montreal were first lighted by electricity. In 1888, the first incandescent lights were supplied. Electric light was first used in Montreal in 1877, by the Harbor Commissioners. Electric power was first supplied for canals in the Dominion at Sault Ste. Marie (Canadian side) in 1895.—From Alphabet of First Things in Canada, by Geo. Johnson, F.S.S.

A Railway Advertising Suit.

An action was recently tried before County Judge Morgan, in Toronto, in which the rights of advertisers were discussed. The Toronto Ry. Co. sued the King-Jones Co., of Toronto, for \$200, balance due on an advertising contract. The defence set up that the Ry. Co. had not performed its contract, & that the contract had been cancelled, & the defendant demanded a jury. Judge Morgan decided against its right to a jury. It was shown in evidence that all the cards received from the defendant had been placed in the cars, & careful & systematic records were put in evidence, proving conclusively the case of the Ry. Co. The members of the defendant Company, although they had previously made affidavits that the cards were not placed in the cars, & that the contract had been cancelled, declined the issue & refused to give any testimony in their defence, & judgment was immediately given for the Ry. Co. for the full amount claimed & costs. The Judge intimated that the evidence of the Ry. Co. was very conclusive. It was suggested for the defendant in cross-examination that some of the conductors might have taken down some of the cards for coal shovels. This was denied, but the Judge intimated that unless such a course of conduct could be shown to have been approved of by the Ry.

Co., it could not be held responsible therefor. W. H. Jones, President of the King-Jones Co., claims to have been a pioneer in street car advertising.

NOTES FROM THE LINES.

British Columbia.

B.C. ELECTRIC RY. CO.—The case of Rae vs. this Co., at New Westminster, was recently decided by Mr. Justice Bole in favor of the defendant, each party to pay his own costs. The action arose out of an accident to a horse through the falling of a telephone wire, which came in contact with the defendants' wire.

Manitoba.

THE WINNIPEG ELECTRIC STREET RY. CO.'S annual meeting fixed for March 8 was postponed for some weeks. The Co.'s offices have been removed from the corner of Main St. & Assiniboine Avenue to the Queen's Hotel Block, where quarters are occupied jointly with the Manitoba Gas Co. & the Lake Manitoba Ry. & Canal Co., the three Co.'s being controlled by W. Mackenzie, of Toronto.

WINNIPEG & ST. ANDREWS.—E. F. Hutchings, of Winnipeg, & others ask for power from the Legislature to construct an electric or steam railway from Winnipeg along the east side of Red River to below St. Andrew's rapids, there to connect with steamers plying on Lake Winnipeg & Red River. The petition recites that the petitioners desire to establish a manufacturing enterprise at a point known as Lorne Hill.

Northwest Territories.

THE DAWSON CITY ELECTRIC CO. is applying to the Dominion Parliament for incorporation. The Co. asks to supply electric light, heat or power throughout the city, & within a radius of 200 miles, as well as to operate an electric tramway. The British American Light & Power Co. asks authority to construct & operate by electricity or other motive power tramways in Dawson City, Fort Selkirk & other points in the Yukon district.

Nova Scotia.

THE HALIFAX & BEDFORD ELECTRIC CO. is composed of Dr. Chisholm, ex-Mayor Keefe, E. F. Freman & others of Halifax, N.S. The Co. will build an electric railway from Halifax to Bedford, with such extensions as may be approved by the municipalities. The capital stock is placed at \$250,000.

THE HALIFAX TRAMWAY CO.'S business during the past year shows a steady increase both in electric lighting and street railway departments. The statement shows a surplus of \$27,308.77, after paying all fixed charges & 4 quarterly dividends of 1¼%. The directors have placed \$20,000 to the reserve fund account.

Ontario.

BRANTFORD STREET RY. is, Manager Barron states, to have considerable new equipment this season.

CHATHAM.—Angus Sinclair, of Toronto, has made a proposition to Chatham City Council in connection with the building of the Chatham City & Suburban Electric Ry., in which, it is said, English capital is interested.

THE CORNWALL ELECTRIC RY. CO. has submitted to the Town Council of Peterboro a scheme for the construction of an electric railway from that town to Chemong & Lakefield. The Co. proposes to lease the Chemong & Lakefield lines from the G.T.R., convert them into electric roads & take over the freight business. The cost is roughly estimated at \$350,000.

THE HAMILTON & DUNDAS RY. is now operated by the trolley system.

THE HAMILTON, CHEDOKE & ANCASTER ELECTRIC RY. CO. will ask the Finance Committee of Hamilton to recommend the City Council to purchase the Beckett drive for \$12,000, in which case the Co. will build its line to Brantford.

HAMILTON, GRIMSBY & BEAMSVILLE ELECTRIC RY.—The Lester party has left the H., G. & B., President C. J. Myles & the other directors having bought their stock, amounting to between \$17,000 & \$18,000. The party that has withdrawn is composed of Ald. T. W. Lester, J. Lester, A. T. Freed, J. Hoodless & A. Rutherford.

An idea of the extent of the Grimsby, Ont., fruit shipping business may be got by the knowledge that the H., G. & B. alone carried 170,729 packages of fruit last season, making a total of 2,850,000 lbs. Besides this, large quantities were shipped over the G.T.R.

The H.G. & B.R. recently discovered that some one had cut & stolen 100 pieces of heavy copper wire between Hamilton & the reservoir.

The H. G. & B. has a new palace car which Ahearn & Soper, of Ottawa, built for it at a cost of about \$4,500.

THE HAMILTON RADIAL CO.'S line is not likely to be extended beyond Burlington this year, but it is probable a connection will be made with the T. H. & B. Ry. for the purpose of handling the Hamilton Blast Co's business. The H. R. Co. will shortly change its line from Sherman avenue to Birch avenue in Hamilton.

The annual meeting of the H. R. Ry. Co. was held April 4. A successful year was reported, though no dividend was declared. Arrangements are being made for crossing under the G.T.R. tracks east of the Westinghouse Manufacturing Co.'s works, thus doing away with a dangerous level crossing. The directors & officers were elected as follows: A. Turner, President; W. A. Wood, Vice-President; J. Moodie, Treasurer; S. Malloch, Secretary; J. Dickson, Adam Zimmerman. Another director will be elected later on, there being a vacancy on the board.

In the dispute between the Radial Co. & St. Luke's Church, Burlington, over compensation for the possession of the avenue approaching the church, S. Barker, sole arbitrator, has awarded the church \$350 in addition to the costs of the arbitration.

HAMILTON STREET RY.—A special meeting of the City Finance Committee was held April 4th to consider the Street Ry. Co.'s application for better terms & for the extension of its franchise, there being a great many citizens present. The Co. was represented by E. Martin, Q. C., J. A. Bruce, B. E. Charlton & Manager Griffith. President Wm. Gibson, M.P., was unable to be present owing to illness. Solicitor Martin said the street railway business had for several reasons greatly fallen off since the introduction of electricity. The road represented an investment of \$204,000 by its stockholders, who were nearly all residents of Hamilton, & a further outlay of the proceeds of bonds, amounting to \$500,000, or \$704,000 in all in hard cash. The Co. had been disappointed in its earnings, & no dividends were paid in 1896 or 1897. The Co.'s receipts in 1897, amounting to \$115,019, had been disposed of as follows: For mileage, \$6,627.62 had been paid; for percentage, \$6,888.51; for taxes, \$2,517.13; & for wages, \$51,503.92. The balance of the total expenditure of \$113,977.19 presumably went for interest on bonds. The employees numbered 120. The Co. was willing to accept the terms of the 1896 by-law (which was previously rejected), regarding the removal of snow & ice, to sell 9 limited tickets for 25 cents, to extend the time for their use, & to lay down & operate a line on Wentworth Street to the east end incline railway & return, for which the city was

to throw off mileage, to readjust the percentage & to extend the franchise to 1928. Mr. Martin also submitted a proposition to abolish all mileage & percentage, & providing that, after the payment of all wages, expenses of management, interest & taxes, the net surplus should be divided equally between the Co. & the city until the share of each shall reach \$10,000 a year, when there shall be a return to the existing rate of percentage. President Myles, of the H.G. & B. Ry., asked that his Co. be allowed to put its line in the middle of Sherman Avenue, south of Main Street. Several citizens asked for street railway connection with the east end incline railway. Rev. S. E. Marshall spoke in favor of compelling the S.R. Co. & the Radial Co. to use the same line on Sanford Avenue instead of the Radial using Birch Avenue. After considerable discussion, the meeting adjourned until April 7.

Hamilton city's share of the earnings of the H. St. R. for the last quarter of 1897 was \$4,163.49, making a total of \$14,315.06 received from the Co. in 1897, against \$13,704 for 1896.

The H. S. Ry. mileage payments will be increased hereafter by the 5 years exemption having expired for Locke Street, from King to Herkimer, & King Street East from Sherman to Wentworth.

The movement for municipal ownership of the Street Railway is reported to be favored by a majority of Hamilton aldermen.

At the recent annual meeting of the H. S. Ry. Co. the directors were re-elected as follows:—W. Gibson, M.P., President; E. Martin, Q.C., Vice-President; F. W. Fearman, W. J. Harris, B. E. Charlton, I. Beer, J. A. Bruce, J. R. Griffith was re-appointed Manager.

HAMILTON TO ST. CATHARINES.—A syndicate, composed of the directors of the Hamilton, Grimsby & Beamsville Electric Ry. directors, & some other parties, is prepared to build an electric road from Beamsville to St. Catharines, so as to give through communication between Hamilton & St. Catharines, as soon as arrangements can be made for power, & a satisfactory bonus is granted by the town of St. Catharines. Negotiations are going on with the Cataract Power Co. in regard to power, & if these are successful, steps will probably be taken towards securing a bonus from St. Catharines.

THE INTERNATIONAL RADIAL CO. will, it is said, apply to Parliament for an extension of time for the building of the line from Hamilton to Guelph. Mayor Hewer, of Guelph, in a conference with Mayor Colquhoun, of Hamilton, recently expressed himself decidedly in favor of the project. In Guelph, he says, opinion is divided. Some think an electric road would divert the Morristown & Aberfoyle trade, which is considerable, to Hamilton. Mr. Hewer thinks not, as the run to Hamilton from either place would take an hour, while to Guelph would be only 20 minutes or so. Then the road would be a great benefit to Guelph in ensuring the prompt delivery daily of fresh fruit, whereas at present the city has to depend upon what comes in by waggons. Where Hamilton would reap its greatest benefit, he thinks, would be in catching a great slice of the Guelph trade which now goes to Toronto. The question of a bonus from Guelph has not been discussed there.

KINGSTON, PORTSMOUTH & CATA-RAQUI ELECTRIC RY. CO.—In Toronto recently, Judges Osler, MacLennan & Moss heard the appeal in the case of the City of Kingston vs. this Co. Robinson, Q.C., & D. M. McIntyre, Kingston, for plaintiffs, appealed from judgment of Street, J. (28 O.R., 399), in favor of defendant. The action is brought to compel the defendant to keep its cars running over the whole of its line of railway during the whole of each year, pursuant

to agreement. The court below held inter alia that the agreement was one of which the court would not decree specific performance. Aylesworth, Q.C., & W. B. Nickle, for defendants, opposed the appeal. Judgment reserved.

LONDON STREET RY.—The annual statement for 1897 made the following showing:

	1897.	1896.
Gross earnings.....	\$ 101,365	\$94,194
Operating expenses....	58,451	54,171
Net earnings.....	42,914	40,023
Passengers carried....	2,585,480	2,432,416

The total assets included:—Road and equipment, 697,500; stores in hand \$4,000; suspense account, \$3,400. And the liabilities included these items:—Capital stock, \$300,000; bond account, \$350,000; accounts payable, \$30,800; unredeemed tickets, \$2,800; bank overdraft, \$4,500; & profit & loss, \$17,700.

The gross earnings for Jan., 1898, were \$7,705.18, against \$6,600.56 in Jan., 1897. The operating expenses were 66.6, against 75.6 for the corresponding period. The gross earnings for Feb., 1898, were \$6,657.85, against \$6,158.99 in Feb., 1897.

The L. S. Ry. Co. has paid Mrs. K. Pitt \$1,500 and costs in settlement of her claim resulting from the death of her brother, W. Spice, in a trolley accident.

The L. S. R. Co., will pay its taxes on an assessment of \$80,000, on poles, wires, rails &c., but will appeal against \$50,000 assessment on cars.

LONDON TO GRAND BEND.—Application is being made to Parliament for incorporation for an electric railway from London to Grand Bend, on Lake Huron. M. C. Cameron, Goderich, is solicitor for the applicants.

METROPOLITAN & MIMICO ELECTRIC RYS.—When the cases of the Metropolitan St. Ry. & the Mimico Electric Ry. came up in Toronto recently, an adjournment was secured until May 2. The companies contended that the Provincial Government has no power to make the running of street cars on the Sabbath an indictable criminal offence. This contention is based upon the case Regina v. Halifax Tramway Co., reported elsewhere in this issue. In the present cases the defence hold that only the Federal Government has the right to make the offence a criminal one, & the Solicitor-General must be given an opportunity to become a party to the action.

NIAGARA FALLS PARK & RIVER RY.—The bill giving the International Bridge Co. of Buffalo additional rights to enlarge the bridge has passed the N.Y. Assembly. It is the intention of the Bridge Co., which is owned & controlled by the G.T.R. system, to enlarge the bridge so as to permit of the passage of pedestrians & carriages, as well as trolley cars. It is known that for a long time the Niagara Falls Park & River Ry. on the Canadian side of the river has had its eye on getting into Buffalo to secure a direct feeder to its system from that city. Heretofore it has taken the people by boat from Buffalo, which has proved very unsatisfactory. A good deal of its traffic has been by a ferry at Lewiston & the upper suspension bridge. The changes in bridge construction & the desire to secure a belt line down one side of the river and up the other will very shortly revolutionize trolley travel about the Falls. There is little doubt that the Niagara Falls Park & River Ry., which owns the franchise along the river bank from Fort Erie to Queenston, will extend its line to the International Bridge when the proper time comes & make connections into Buffalo.

OTTAWA CITY RY. CO.—At the recent annual meeting it was shown that 4,762,082 passengers were carried during the year & 1,538,836 miles run. Quarterly dividends of 2 per cent. were paid. A satisfactory in-

crease in receipts was reported, especially since September last. The following were re-elected directors: J. W. McRae, T. Ahearn, G. P. Brophy, W. Y. Soper, T. Workman, P. Whelen & W. Scott.

OTTAWA & METCALF.—An electric railway is being advocated between Ottawa & Metcalf, Ont. The distance is about 20 miles.

ST. CATHARINES & PORT DALHOUSIE.—Plans are said to have been completed for the building of an electric railway between these points.

ST. CLAIR TUNNEL CO.—It is said this Co. contemplates converting the motive power for the tunnel from steam to electricity. The matter is understood to be under consideration by Chief Engineer Hobson, of Montreal.

THE ST. THOMAS STREET RAILWAY CO. has awarded the Ottawa Car Co. a contract for cars, & to the Robt. Armstrong Engineering Co., Amherst, N.S., the contract for an engine.

THE SMITH'S FALLS, RIDEAU & SOUTHERN ELECTRIC RY. recently applied to the Smith's Falls Council for permission to lay rails & erect poles.

TORONTO ELEVATED RAILWAY.—An incorporated company recently submitted through its solicitors a proposition to Toronto City Council for a system of double-track elevated railways, the contract to expire 1921, fare, 10 tickets for 25c., and at least 5 miles to be in operation within 2 years.

TORONTO RAILWAY CO.—The hard-fought suit over the assessment of the poles, wires & tracks of the Toronto Ry. Co. was settled for the nonce by the Court of Appeal on March 15, giving judgment in favor of the city, Sir George Burton, C.J., dissenting. When the city made the assessment on Ward 1 last year, the Co. appealed to the Court of Revision, which sustained the assessment. Then the Co. appealed & brought the matter before three judges, County Judge McDougall of York, & the senior judges of the adjoining counties, Dartnell of Ontario & McGibbon of Peel, who decided in favor of the Co., Judge McDougall dissenting. In the meantime the Assessment Department assessed the poles, wires, etc., of the Co. in the other wards of the city, & in each case the Co. appealed to the Court of Revision against the assessment, the Court of Revision, in view of the judgment of the three judges in the case of Ward 1, sustaining the appeal of the Co. This placed the city in the position of being the appellant against the decision of the Court of Revision, & an appeal was taken to Judge McDougall, it being deemed unnecessary to call in the other two judges in this instance. Judge McDougall, after hearing argument, reversed the decision of the Court of Revision & held that the Co. was liable for assessment. Then the Co. appealed from this decision to the Court of Appeal, with the above result. By the decision the assessment of \$452,277 against the Co. in Wards 2 to 6 is confirmed for 1898, which will probably yield between \$7,000 & \$8,000 in taxes. Next year a further addition to this assessment of about \$85,000 for Ward 1 will be made, making a total assessment of about \$540,000.

There is a likelihood of the Toronto Railway Co. buying out the City & Suburban Electric Line, & operating it as a separate concern, as it now does the Mimico branch. The City & Suburban Co. has 12 miles of rail laid between Toronto Jct., Weston & Lambton, & it is understood that for some time past it has been awaiting a good offer with a view to selling out. The deal between the two companies is as yet in its first stage. The Toronto Co. has not bound itself to any terms, but negotiations are pending & there is every prospect of the deal going through. At present the Toronto Railway has not running rights into Toronto Jct., & cannot take a pas-

senger within the town limits. It is also stated, on good authority, that the Toronto Railway Co. is willing to consider terms with the Metropolitan Co.

A Toronto evening paper recently started an agitation against the payment of fares on the street railway when the cars were too crowded to permit of a passenger being seated. The "no seat, no fare" agitation ended rather ingloriously when 2 passengers, who refused to pay their fare because there were no seats for them, were brought before the magistrate & assessed a maximum fine with costs.

There is every probability of an extension of the Toronto Ry. Co.'s system to Oakville. The line on Queen St. West is to be continued along Queen to Balsam Avenue, thence into Munro Park, where tracks are laid. The Kingston Road line is to be extended east at least 3 miles beyond the Country & Hunt Club. The Avenue Road line is to go as far as Heath Avenue, & a line will be built to connect with Yonge St. The Co. intends building a second line to Station St. to pass over York St. bridge & run east along Lake St. to Yonge St.

The gross earnings of the Toronto Railway Co. for the first 3 months of 1897 & 1898 are given as follows:

	1897	1898	Increase.
Jan'y....	\$74,545.55	\$86,562.36	\$12,016.81
Feb'y....	69,744.61	82,402.19	12,657.58
March....	78,891.45	92,818.12	13,426.67

The average operating expenses for 1897 were 48.8% of the gross earnings.

E. A. Macdonald threatens to enter suit against the Toronto Ry. Co., alleging that the franchise was obtained by fraud, bribery & corrupt means.

York Township Council & the Manager of the Toronto Railway Co. had a conference on Mar. 24 regarding the extension of the system to Mount Pleasant. The Council will have another meeting to push the project.

TORONTO TO RICHMOND HILL.—A. H. St. Germain, who proposes to establish an auto-car service between Richmond Hill & Toronto, has closed a contract with the Canadian Motor Syndicate for the 1st car. The motors are the invention of W. J. Still. The new car will be a passenger & parcel van capable of seating 25 people. It will be fitted with electric light & buttons & strong brakes.

Quebec.

HULL.—The Ottawa Car Co. recently received an order from the Hull Electric Ry. Co. for 5 open cars, one to be used as a motor. It will be of the latest design & finest finish. The other 4 are trailers. It will also remodel the parlor car of the Hull Electric Co., putting in longitudinal seats in place of the others. The 4 trailer cars & motor car will have curved seat panels, that will enable passengers to enter the car more quickly & with greater ease than with the old ones.

ISLAND OF ORLEANS.—There is a movement on foot to get an electric railway service for the Island of Orleans, near Quebec. It is reported that a charter will be asked to construct an electric railway around the Island. The power is to be obtained from Montmorency Falls.

THE MONTREAL BELT LINE RY. has established the first electric railway freight office at Moreau Street, Hochelaga, for transportation purposes. This will accommodate farmers & others shipping produce to Montreal markets. The Co. is asking the Dominion Government for an act to change the name of the Company, to extend the term for completion of branches & for enlarged powers of operation.

THE MONTREAL PARK & ISLAND RY. CO. was recently given two months by Judge Charland to comply with the condi-

tions of its contract with the town of St. Louis. This means that the residents of St. Louis are entitled to all the advantages in respect of street car transportation that citizens of Montreal enjoy, namely, under agreement with the Park & Island R. Co., passed in April, 1893, that Co. must provide a 5 minute service to the centre of the city of Montreal, supplying tickets at the same rates & on the same terms as those in force on the Montreal Street Ry., & give transfers.

E. M. Fulton has entered suit against the M. P. & I. Co. for \$4,000 doctors' bills, hospital attendance, etc., necessitated by an accident sustained on the line.

MONTREAL STREET RY. CO.—There was a rumor in Montreal recently that the M. S. Ry. Co. & the Park & I. Ry. would unite. The presidents of both companies denied the report. President Holt, of the P. & I. Ry. Co., said: "There has been a by-law prepared & accepted by the St. Louis du Mile End corporation, which provides for the taking over of the franchise by the Montreal Street Ry. Co. This is contingent on our acceptance, and we, of course, shall not accept unless there is an amicable agreement between ourselves and the M. S. R. for the running of our cars through the municipality, just as they now do through the city. The only difference would be that the cars would be taken in charge by the M. S. R. at about the C.P.R. crossing, instead of nearer the city limits. As to any amalgamation of the companies, such as has been talked about, that is out of the question." President Forget, of the M. St. Ry. Co., said that the rumor had been made out of whole cloth.

The M. S. R. Co.'s passenger equipment now consists of 221 closed motor cars; 149 open motors; 45 closed trailers and 30 open trailers; 60 more open cars are being built for next summer's traffic. The average daily number of full-day cars run (18 hours each per day) is 148; summer (May-October), 156; winter (November-April), 140. The average daily number of cars run during busiest hours of the day is, summer, 200; winter, 190. During the year ended Sept. 30, 1897, 32,047,367 passengers were carried; during the 4 months ended Jan. 31, 1898, there were carried 10,928,793, as against 9,935,989 in the corresponding period of 1897.

The M. S. R. Co. recently invited tenders to be sent in by April 1 for the privilege of advertising in the cars, the same to be confined to racks in the head linings of the cars. The tenders have to state a sum per year, payable in advance, the contract to run to Dec. 31, 1899, when the contractor may renew for a further 2 years, at 25% advance on the original contract.

The M. S. R. Co. has received an order from its relative the Kingston, Jamaica, Street Ry. Co. to build 20 electric motor cars for use in Kingston.

The increase in earnings of the M. S. R. Co. for Feb., 1898, over Feb., 1897, is \$12,673.81. The total receipts for Feb. amounted to \$102,625.49. The average daily earnings were \$3,663.14, an average daily increase of \$334.45. The comparative statement is as follows:

	1897	1898
October	\$116,293.09	\$109,110.38
November	110,929.60	100,818.57
December	113,128.91	103,115.02
	1898	1897
January	110,156.46	99,636.18
February	102,625.49	89,951.68
March	114,677.91	99,441.91
	\$667,811.46	\$602,074.74

The M. S. R. Co. recently gave orders that all motormen & conductors should buy new uniforms once a year. In order to preserve some measure of uniformity, all clothing is to be issued on the same day, overcoats Nov. 15,

& uniforms May 24, an overcoat to be worn only one season. One-third the cost of the uniform is borne by the Co.

The Court of Review has confirmed the decision of the Superior Court, dismissing Dame Elizabeth Kerr's action against the M. S. R. Co. Dame Kerr sought to recover \$4,115 for injuries received while getting off a car. The accident was alleged to have taken place Dec. 16, 1894; action was not taken till Jan. 28, 1896, & the first notice the company got was Dec. 24, 1895. The courts held that the evidence was too vague to satisfactorily establish fault on the part of the Co.

On Feb. 18 the monthly drawing of the conductors & motormen of the M. S. R. Co. took place, Supt. McDonald presiding. Every year the Co. apportions \$500 for employes who have no marks against them for each month. Special prizes are also awarded men who distinguish themselves in moments of peril.

It is said the deal between the Chambly Power Co. & the M. S. R. Co. is as good as accomplished, that the street railway will lease its present power house to the Royal Electric Co., & it will be kept in reserve in case of an emergency. The M. S. R. Co. now generate its own power, using about 9,000 horse power a day. The cost of producing this is estimated at \$42 per horse power, an annual expenditure of over \$360,000, while, according to reports, the Chambly Co. has offered to furnish the necessary power at \$32 per horse power. This would mean an annual saving of \$90,000.

The M. S. R. Co. has just had 15,000,000 car tickets printed costing \$1,100. The Co. got \$3,000 from the advertising on them.

QUEBEC CITY.—It is stated by H. J. Beemer that probably in 1899 or 1900 the consolidated Quebec St. Ry. & the Quebec, Montmorency & Charlevoix Ry. will extend as far as Murray Bay. The present system will be operated as far as Cape Tournament. When Mr. Beemer transferred the franchise to the present Co. he retained a 2 years' option of the property, which he now insists on availing himself of. It is said the Co. offered \$300,000 to buy out his right, but that he demanded \$350,000, which it would not pay, & now he is about to redeem the property, paying the Co. 10% premium on the cost of construction, & 6% interest on the money invested, as agreed at the time of the transfer. It is understood that the returns of the road have been so large that Mr. Beemer has found no difficulty in selling to another company, which will also take over the Quebec & Montmorency Ry., consolidating the two lines, & running them both by electricity.

Ten years ago, on Feb. 3 last, an electric street railway service was first demonstrated to be feasible by the Union Passenger Ry. of Richmond, Va.

Many railway companies handling heavy suburban business are seriously considering the advisability of adopting electricity as the motive power for such service:

The Maisonneuve Council has obtained permission from the Belt Line Ry. to allow the tracks of the Montreal Street Ry. to cross its tracks at Lasalle street, with the view of extending the service of the latter company to Letourneux street. To complete the scheme the council has to get the sanction of the Railway Committee of the Privy Council to the right of way across the Belt Line tracks.

A considerable amount of money will be spent this summer by the Manitoba Electric Light & Gas Co. & the Street Ry. Co. on their system at Winnipeg. J. Kynoch, of the Canadian General Electric Company, when in Winnipeg recently, said it was the intention to re-organize completely the lines of the street railway & the Gas Co. New generators, new transformers, plants, etc., will be put in & the whole system gone over & improved.

The Canadian Electrical Association will meet at Montreal for its annual convention on June 28, 29 & 30. The programme, while not yet complete in all details, includes besides the business session a trip to Chambly to view the works of the electrical company, a trip on the Park & Island Ry., an evening excursion up the mountain, in order that the members may see the city illuminated, a trip to the works of the Lachine Hydraulic & Land Co. to McGill University, the Street Ry. power-house, etc. It is expected a large number will attend.

EXPRESS.

Canadian Companies' Organization.

CANADIAN EXPRESS.—Head Offices, Montreal, Que.

Chas. M. Hays, President, Montreal.

Jas. Bryce, Manager, Montreal.

J. H. Sparling, Superintendent, Toronto.

H. C. Creighton, Superintendent, St. John, N.B.

A. Maxwell, Assistant Treasurer, Montreal.

R. Burkinshaw, Traffic Auditor, Montreal.

P. Macdonald, Assistant Traffic Auditor, Montreal.

W. W. Williamson, Accountant, Montreal.

W. T. Anderson, M.D., Auditor, Montreal.

ROUTE AGENTS: E. Allen, Toronto; G. W. Hickey, Hamilton; F. H. Hackett, Montreal; Geo. Severs, Montreal; B. S. Murray, London, Ont.

DOMINION EXPRESS.—Head Offices, Toronto, Ont.

Sir G. A. Kirkpatrick, President, Toronto, Ont.

W. S. Stout, General Manager, Toronto, Ont.

Jno. Cassils, Secretary & Treasurer, Montreal, Q.

S. T. Stewart, Superintendent, Montreal, Q.

J. A. Boswell, Superintendent, Toronto, Ont.

G. Ford, Superintendent, Winnipeg, Man.

W. H. Burr, Auditor, Toronto, Ont.

G. A. Newman, Assistant Treasurer, Toronto, Ont.

H. L. Meyer, Tariff Clerk, Toronto, Ont.

W. Stinson, Supply Clerk, Toronto, Ont.

MARITIME EXPRESS.—Head Offices, Halifax, N.S.

Wm. Fraser, Manager & Treasurer, Halifax.

A. D. Stewart, Assistant Manager, St. John, N.B.

J. F. Masters, New England Agent, Boston.

WESTERN EXPRESS.—Head Offices, St. Paul, Min.

F. D. Underwood, President, Minneapolis, Min.

W. F. Fitch, Vice-President, Marquette, Mich.

W. S. Stout, General Manager, Toronto, Ont.

Chas. F. Clement, Treasurer, Minneapolis, Min.

Ronald Stewart, Superintendent, St. Paul, Min.

F. W. Allen, Assistant Treasurer, Marquette, Mich.

W. H. Burr, Auditor, Toronto, Ont.

H. L. Meyer, Tariff Clerk, Toronto, Ont.

H. E. Gilmore, Route Agent, Marquette, Mich.

A. W. Lee, Route Agent, Seattle, Wash.

G. C. Thompson, solicitor for the Ontario Express & Transportation Co., which became defunct in 1892, says the affairs of the Co. will be wound up at once, & that the employes will be paid their wages in full. The creditors of the Co. will get 8 or 10% of their claims. The shareholders will get nothing; in fact, they will be assessed to pay the claims. It is now 6 years since the winding-up order was granted.

The Canadian Express Co.

The business of this company dates back to more than 50 years ago, when the British-American Express Co. & Cheney, Fiske & Co., established a line of express connections, using the old stage lines, & then these companies consolidated & formed the present corporation. Benj. P. Cheney became the first President, retiring Feb. 1, 1880, & was succeeded by Gilman Cheney, who is now Vice-President. Chas. M. Hays, General Manager of the G.T.R., is President, & Jas. Bryce, Manager. The company's headquarters are at Montreal. The company employs about 2,800 persons. It operates on the Grand Trunk, Canada Atlantic, Lake Erie & Detroit River, Bay of Quinte, Cumberland, New Brunswick, Central, Intercolonial, Quebec & Lake St. John railways, on the Allan & Dominion Steamships, Prince Edward Island, as well as other water lines. Jas. Bryce, the Manager & Chief Executive, has long been identified with express interests, & gives an able attention to his important duties.

Collections by Express.

On April 4 the Canadian & Dominion Express Cos. put into effect an important change respecting collection of notes, drafts, accounts or bills for \$100 or under, not requiring protest, by adopting a low uniform prepaid charge of 10c. on each item for collection, thus greatly benefiting manufacturers, publishers & others having a large number of collections yearly. This amendment applies to all offices of the two companies named, likewise to all American Express Co.'s offices in Canada, as well as their offices in the U.S. common with the Canadian Express Co., but only on such collections as originate in, or are destined to, points in Canada, or such offices in the U.S. as are reached by the Canadian & Dominion Express Co.'s.

When collection has been paid, agent at destination will issue an express money order for the amount of each item collected, making same payable to order of shipper and giving name of person from whom collected as remitter. Unless instructed on wrapper to collect the money order fee of person paying collection, agent will issue money order for amount collected, less the fee for money order.

When collections are carried over the lines of more than one company, the outward prepaid charge will be 10c. for each company carrying, the collecting company also retaining the money order fee. Collections must not be held exceeding 15 days, unless specially authorized on wrapper by shipper. If agent is unable to collect, full explanation of the reasons must be given.

AMOUNT.	Outward Prepaid Charge On Each Item.	Cost of M.O. if Collected.	Total Cost if Collected.
\$3 & under	10c.	3c.	13c.
Over 3 up to \$5	10c.	4c.	14c.
" 5 " 10	10c.	6c.	16c.
" 10 " 20	10c.	10c.	20c.
" 20 " 30	10c.	12c.	22c.
" 30 " 40	10c.	15c.	25c.
" 40 " 50	10c.	18c.	28c.
" 50 " 60	10c.	20c.	30c.
" 60 " 75	10c.	25c.	35c.
" 75 " 100	10c.	30c.	40c.

The Dominion Express Co. announces the opening of a route on the C.P.R. between Slocan Junction & Slocan City, B.C. This is over the Slocan branch of the Columbia & Kootenay railway, which has been recently completed for traffic. Offices are established at Lemon Creek & Park Siding.

The Dominion Express Co. recently received at Victoria, B.C., a box weighing 8,786 lbs.,

from Bethlehem, Pa., containing a steel shaft for the S. S. Commonwealth. Agent Oliver says this is the heaviest single package that ever came to Victoria by express, although he has handled several single consignments that were in a lot of boxes that were greater weight than this. For instance, the Dominion Express Co. brought a shipment of silver coin from London, Eng., to Victoria, which weighed 5 tons. The Albion Iron Works got this shaft for the Commonwealth, & considers it paid to get it by express, as every day the ship had to lie over cost \$300.

Dominion Express Office Signs.

The Dominion Express Co. is equipping its offices with handsome enamelled iron signs, with white letters on blue ground. Some of them are lettered on one side only to place flat on a wall, the others are lettered on both sides, with a flange, so they can be put up projecting from buildings. They are very attractive & much more effective than any painted sign, in addition to which they are more economical, as they are practically indestructible, & are not affected by the weather. The Co. is also using a similar kind of sign, but smaller, for its money order business. All of them were manufactured in Wolverhampton, Eng., & supplied by The Acton Burrows Co., Toronto, who are the sole agents in Canada for the manufacturers.

TELEGRAPHS & CABLES.

The West Indian Cable.

The lack of facilities which has hitherto existed for sending cablegrams direct from England to the British West Indies, without their having to pass through foreign territory, has been removed by the extension of the Halifax-Bermuda cable to Kingston, Jamaica. This extension has recently been completed, & the first messages dispatched across the Atlantic. The West Indian & Panama Cable Co. has up to this enjoyed the undisputed privilege of conveying these cablegrams. The islanders disapproved of their cablegrams to the mother country being forwarded through the United States & Cuba & feared the position in which they would find themselves in the event of England being at war with either of these two countries. They also were dissatisfied at the reluctance of this Co. to facilitate the business of the islands by the reduction of rates, etc., & they decided some 3 years ago to approach the Halifax-Bermuda Cable Co. with a request to extend its cable, via Turk's Island, to Jamaica, the bounty hitherto paid to the West Indian & Panama Cable Co. being offered as an incentive to its doing so. This request, after some consideration & a great deal of correspondence with the Imperial Government, the Co. agreed to, & the Telegraph Construction Co. was commissioned to lay the cable, on the understanding that the work should be completed by the end of January of this year. Despite the fact that the Caribbean Sea is visited by severe storms during the winter months, the agreement was carried through fully a fortnight before the time stipulated in the agreement, & another link between England & her colonial offspring in the West Indies has become an accomplished fact. The Construction Co. reports that the work of laying the cable was carried out without the slightest hitch, & that they were favored by exceptionally fine weather for the season of the year. To facilitate the laying of the cable within the time allowed by the Imperial Government, H.M.S. Britannia, of the Surveying Department, was commissioned to perform the surveying trip, & an extensive survey of the route was made by her early in the winter. The desire of the Co. was to spare no pains nor expense in finding

the best bed in which to lay the cable, thus lessening the fear so common in similar undertakings of being called upon in the future to make repairs to it. The Co.'s steamer The Scotia was employed in the work, Capt. Cato commanding, with Mr. Lucas as Chief Electrician in charge of the laying.

The following table shows the very great reduction in the rates from Eastern Canada by the opening of this route. The first column gives the lowest rates prevailing for many years; the second the rates via the U.S. and Hayti Cable, which was laid in 1897; and the third the rates by the new route via Halifax.

Place.	Lowest rates, 1896.	Completion of U.S. & Hayti Cable, 1897.	Completion of Jamaica extension, Halifax-Bermuda Cable.
Antigua.....	\$2.19	\$1.59	\$.86
Barbadoes.....	2.21	1.69	.96
Cuba (Santiago).....	.95		.73
Dominica.....	2.02	1.55	.82
Grenada.....	2.20	1.67	.94
Guadaloupe.....	1.97	1.37	1.32
Jamaica.....	\$1.19 to 1.22		.48
Martinique.....	1.97	1.37	1.32
Porto Rico.....	1.92 to 1.96	1.90	1.17
St. Kitts.....	2.19	1.67	.94
St. Croix.....	2.06	1.80	1.07
St. Lucia.....	2.03	1.63	.90
St. Thomas.....	2.01	1.74	1.01
St. Vincent.....	2.10	1.64	.91
Trinidad.....	2.31 to 2.33	1.76	1.03
United State of Colombia (Colon & Panama).....	1.00		.97
British Guiana.....	2.73	2.22	1.40

Commercial Cable Company.

The annual meeting of the Commercial Cable Co. was held in New York Mar. 7. The revenue for the year from the operations of the cables, after deducting all expenses and reserving \$11,750 to meet depreciation of spare cable, amounted to \$1,200,155.53, as compared with \$1,123,653 for the previous year. The revenue from the land lines, after deducting all operating expenses & setting aside \$60,000 to a land lines depreciation reserve account, amounted to \$645,185.59. The net revenue of the combined systems was \$1,845,341.12, out of which have been met interest on 1st mortgage bonds & debenture stock, \$640,000, & dividends of 7% & bonus of 1% on the capital stock, amounting to \$800,000—a total of \$1,440,000—leaving the balance of net revenue for the year \$405,341.12.

The balance to the credit of revenue at the end of 1896, after adding to the reserve fund \$250,000 invested in U. S. Government bonds), amounted to \$596,678, and it is the intention of the directors to set aside out of the total amount now standing to the credit of revenue (\$1,002,019.36) \$250,000 to be invested in high-class securities as an addition to the reserve fund, which will then stand at \$2,608,329. It is also the intention to set aside \$275,000 as a reserve for the insurance of stations, apparatus and repairing steamer and for special expenditure necessary for the maintenance of the Co.'s property. After providing these reserves the balance of net revenue to be carried forward to the next year will be \$477,019.

Notwithstanding that business on the land lines was very dull during Jan. and Feb., the net revenue of that system for the year fulfilled the expectations of the directors and was more than sufficient to meet the interest on the 1st mortgage bonds and debenture stock, and these fixed charges absorbed only 34½% of the total net revenue of the combined systems.

There have been added to the land line system during the year 933 miles of new pole line & 3,966 miles of wire.

The directors elected for the current year are: J. W. Mackay, J. G. Bennett, G. G. Howland, Col. W. Jay, G. G. Ward, Sir W. C. Van Horne, E. C. Platt, Lord Strathcona &

Mount Royal, C. R. Hosmer, T. Skinner, C. H. Mackay, A. B. Chandler & D. Clarke. The officers are: J. W. Mackay, president; G. G. Ward, Vice-President & General Manager; C. R. Hosmer, A. B. Chandler & C. H. Mackay, Vice-Presidents; E. C. Platt, Treasurer; Albert Beck, Secretary, & J. O. Stevens, Assistant Secretary.

Canada's Telegraph History.

The semaphore telegraphic system was early in use in Canada. A semaphore was established in 1809 between Isle Vert & Quebec City for the purpose of signalling vessels.

The first telegraph wire strung in the Dominion was put up by the Toronto, Hamilton, Niagara & St. Catharines Telegraph Co. in 1847. It was a simple insulated wire. In the same year a line connected Montreal and Quebec. In 1848 Nova Scotia & New Brunswick were supplied with their first telegraphic communication. The first electric telegraph office in St. John, N.B., was opened in Jan., 1849. The first month's receipts were \$56.

The first proposal to the Government to build a telegraphic line across the continent from Montreal to the Pacific Ocean was made by the Atlantic & Pacific Transit Telegraph Co. The proposal was made to the Imperial Government & was recommended by the Governor-General in his speech on the opening of Parliament in 1863. It was not entertained by the Canadian Legislature because that body thought that a post-road ought to be built simultaneously with the telegraph line.

The Montreal Telegraph Co. paid its first dividend on Jan. 14, 1848. On Aug. 17, 1881, it agreed to an arrangement with the Western Union, by virtue of which the latter company guaranteed for 97 years 8% annual dividends. The Western Union in 1867 leased the New Brunswick & Nova Scotia lines.

The charter of the C.P.R. Co., granted in 1881, conferred upon that Co. the franchise of a telegraphic system for general business.

When the Dominion began in 1867, there were within its borders 497 offices, 7,227 miles of line and 9,040 miles of wire. During the year 600,770 messages were sent.—From Alphabet of First Things in Canada, by Geo. Johnson, F.S.S.

Government Telegraph Lines.

The estimates recently submitted to the Dominion Parliament for the fiscal year 1898-9, provide for \$20,600 for telegraph lines as follows:

Land line on north shore of St. Lawrence, Que., to improve roadway, repair line & increase operating facilities generally, between Godbout & Pointe aux Esquimaux \$1,000.00.

Land line on the north shore of St. Lawrence—Extension from Pointe aux Esquimaux eastward, \$15,000.00.

Alternative line connecting Cape Beale & Carmenah with Victoria, B.C., by extending the French Creek, Alberni Line, southwardly to the south-west coast of Vancouver Island, \$4,600.00.

The 1st item is a decrease of \$2,000 as compared with 1897-8, the 2nd item is a decrease of \$4,000, & the 3rd item is a revote. The total appropriation is \$11,600 less than for 1897-8.

VANCOUVER-NANAIMO CABLE.—The C.P.R. Co's S.S. Tartar arrived at Vancouver, April 1, from Southampton, having on board the C.P.R. Co's cable to be laid between Vancouver City & Vancouver Island. The cable was successfully laid on April 6, under the supervision of F. B. Gerrard, of the Commercial Cable Co.'s staff.

Telegraph Office Changes.

GREAT NORTHWESTERN.

Opened: St. Brigade, Que.
Closed: Massawippi, Que.; Notre Dame des Anges, Que.; St. Placide, Que.

CANADIAN PACIFIC.

OPENED:—Bathurst, Ont.; Blairton, Ont.; Hammond, Ont.; St. Polycarpe, Que.
CLOSED:—Garicola, B.C.; Ross Peak, B.C.; Midway, Man.; Rosebank, Man.; Pasqua, Assa.; Lansdowne, Ont.; Maitland, Ont.; Deschambault Station, Que.; Piles Jct., Que.; St. Sebastian, Que.

The Western Union Telegraph Co. has declared a dividend of 1¼% payable April 15.

The Train Dispatchers' Association of America will hold its convention in Montreal June 14.

It is said the increases to telegraphers on the C.P.R. under the recent arrangement will amount in the aggregate to \$73,000 a year.

The Dominion Telegraph Co's. guaranteed dividend at the rate of 6% per annum, for the quarter ended March 31, will be payable April 15.

The Manitoba District Telegraph & Delivery Co., particulars of which were published last month on page 20, has been granted incorporation by the Manitoba Government.

The Compagnie Francaise des Cables Télégraphiques has agreed to lay a new cable immediately from Brest to New York, in consideration of an annual subsidy of about \$150,000.

At the recent conference of Colonial premiers in Melbourne, Australia, it was resolved that if Great Britain and Canada contributed ⅓ of the cost of the proposed Pacific cable, Australia should contribute the remainder.

Superintendent Jaynes says the Western Union Telegraph Co. has not abandoned its proposed extension to Victoria, B.C., but that the cable is being manufactured, & will be laid by the time that the land line from Seattle, now under construction, is completed.

The Spanish Government is arranging for communication with Cuba over neutral cables in the event of a rupture of relations with the U.S. This is feasible by way of Halifax, Bermuda & Jamaica, using the new British cable, but the French Co., possessing an unladen cable, offers to connect Spain direct with Cuba within a few weeks. Negotiations with this company are proceeding.

VANCOUVER ISLAND CABLE.—The Western Union Telegraph Co. expects to have its line to Victoria, B.C., in operation by May 1. The line will be constructed via Port Gamble & Port Ludlow. Seven cable connections, ranging from ½ a mile to 17½ miles, or a total of 30½ miles of cable, will be necessary. The longest stretch of cable will be from Port Angeles to Victoria, 17½ miles.

At the last annual meeting of the Montreal Telegraph Co., the assets were stated to be \$2,263,030, the excess over shareholders' capital being \$151,823.85. The contingent fund is \$70,869.11. It was decided that when the contingent fund reaches such a figure as will yield a yearly revenue of \$5,000, that amount shall be divided among the shareholders, which will give 3 additional dividends of about ¼ of 1%. A. Allan, H. Mackenzie, J. Joseph, W. Wainwright, H. Archibald, W. J. Withall & H. A. Allan were elected directors.

A. C. HENRY, Purchasing Agent C.P.R.:—"I am glad to hear you intend bringing out a publication devoted to the railway & shipping interests of Canada. It seems to me there should be a good field for it, & I should consider it a good medium for advertisers wishing to reach those classes."

TELEPHONES.

The Bell Telephone Co.'s Annual.

The report presented at the recent 18th annual meeting in Montreal gives these facts:—983 subscribers have been added during the year, the total number of sets of instruments now earning rental being 30,445. The Co. now owns & operates 349 exchanges & 261 agencies. 35 miles of poles & 703 miles of wire were added to the long distance system in 1897; of these 5 pole miles & 209 wire miles are in the Ontario department, & 30 pole miles & 494 wire miles are in the Eastern department. The long distance lines, now owned & operated by the Co., comprise 16,567 miles of wire on 6,095 miles of poles. Under authority of the shareholders, \$66,500 bonds were sold during the year, the premium thereon being 10%. Continuing the policy adopted in past years, the directors have charged to contingent fund \$150,000, that amount having been expended during the year on construction rendered necessary by the introduction of trolley & other strong current wires, but which has not increased the earning power of the plant.

REVENUE ACCOUNT, DECEMBER 31, 1897.

RECEIPTS.	
Exchanges	\$ 862,319 29
Long Distance Lines	229,917 98
Private Lines	12,619 01
Miscellaneous	80,828 93
	\$1,185,685 21

EXPENSES.	
Operating	\$ 825,038 94
Legal	7,725 51
Insurance	23,733 68
Bond Interest	45,683 30
Miscellaneous	3,752 21
	\$ 995,933 64

Net Revenue for 1897	\$ 279,751 57
Less Dividends (inc. Jan. 15, 1898)	253,440 00
	\$ 26,311 57
Balance Revenue from 1896	\$ 36,025 60
Carried forward to 1898	\$ 82,337 17

BALANCE SHEET, DECEMBER 31, 1897.

Stock Account	\$3,168,000 00
Bond Account	940,000 00
Contingent Fund	\$ 950,000 00
Less transferred to Construction Account	150,000 00
	\$ 800,000 00
Revenue Account	82,364 17
Unearned Rental Reserve	163,541 66
Insurance Reserve	68,037 12
Accident Reserve	15,574 06
Bond Interest Reserve	11,750 00
Sundry Creditors	287,789 09
Bond Premium	6,650 00
	\$5,543,706 10

Plant & Patents, 31st December, 1896	\$4,202,567 00
Purchase of Patents, 1897	1,767 00
Construction, 1897	\$341,214 09
Less Contingent Fund	150,000 00
	191,214 09

Plant & Patents, 31st December, 1897	\$4,395,548 88
Stores on hand	169,079 44
Real Estate	649,295 73
Stock in other Companies	164,731 50
Sundry Debtors	40,897 87
Due from Agencies	74,858 91
Cash	49,293 77
	\$5,543,706 10

The following were elected directors:—C. F. Sise, R. Mackay, J. E. Hudson, R. Archer, W. R. Driver, H. Paton, C. Cassils, T. Sherwin.

The Co. has declared a dividend of 2% payable April 15.

The Bell Telephone Co. is having plans prepared for an exchange building to be built on St. John Street, Quebec.

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