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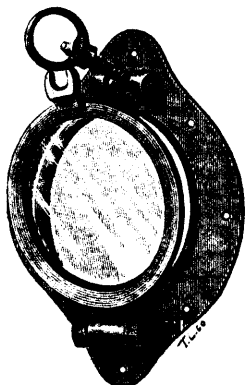
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VOL. I., No. 9.

TORONTO, CANADA, NOVEMBER, 1898.

\$1 A YEAR.

Senator Forget.

The Hon. Louis Joseph Forget, whose portrait appears on this page, belongs to a family that came to Canada from Normandy about 1600. He was born at Terrebonne, Que., Mar. 13, 1853, was educated at Masson College, & in 1873 commenced business as a stock broker in Montreal, where he has been for many years the senior partner of the firm of L. J. Forget & Co., bankers & stock brokers. On the retirement of H. S. Macdougall from the presidency of the Montreal Stock Exchange in 1895, Mr. Forget was elected to succeed him & was re-elected in May, 1896. He has been President of the Montreal Street Railway Co. since 1892, & of the Richelieu & Ontario Navigation Co. since 1895. He is a director of the Royal Victoria Life Insurance Co., & of the Notre Dame Hospital, & is Vice-President of the Board of Governors of Laval University, Montreal. He was called to the Senate in June, 1896. In religion he is a Roman Catholic; in politics a Conservative. He married in May, 1876, Maria, daughter of G. A. Raymond, of Montreal.

Tit for Tat.

The Chicago Times-Herald, which is an ardent supporter of the efforts of the U. S. railway managements to exclude Canadian railways from participating in U. S. freight or passenger traffic, in recently discussing the meeting of the arbitrators in that city to decide whether the C.P.R. was entitled to a differential on transcontinental freight, said—

"Every time the Canadian Pacific takes a train-load of freight from Chicago to San Francisco, via Winnipeg, it deprives railway employes in the U.S. of the wages that they would earn on that train-load of freight. The supplies consumed pay no tribute to the American producer."

Per contra, every time any railway takes a train-load of freight from any point in Eastern Canada for Winnipeg, Vancouver or Victoria via Chicago, it deprives railway employes in Canada of the wages that they would earn on that train-load of freight. The supplies consumed pay no tribute to the Canadian producer.

The moral for Canadians is obvious.

G. F. Phillips, Dominion Government Boiler Inspector, returned to Winnipeg recently from a trip which took him to the Arctic Circle & to within 40 miles of the Arctic Ocean. He left Winnipeg May 20, & travelled 2,000 miles north of Edmonton by canoe & York boat.

FINANCE, MEETINGS, &c.

The Grand Trunk's Semi-Annual.

Our last issue contained the full text of the directors semi-annual report for the first 6 months of the year & a brief cable report of the proceedings at the shareholders meeting Oct. 13. We have since received a verbatim report of the speeches of the President & Vice-President as follows:



THE HON. L. J. FORGET.

The President, Sir Rivers-Wilson, said: The ½-year ended June 30 last, which we have under review to-day, is the best June ½-year we have had since the year 1890, & it further presents this interesting & agreeable feature, that after an interval of 4½ years it places us in a position to resume the payment in full of the dividend upon our guaranteed stock, with every prospect, I trust, of further progress in the same direction within a very limited future. While, however, the gross

receipts for the first 5 months of the ½-year were favorable, there was a large falling-off in freight traffic in June caused by the diminished shipments of grain in consequence of the abnormally large quantities previously sent forward owing to the Leiter speculations. The stocks of grain in the country were thus depleted, & our receipts from this source of traffic have consequently been adversely affected up to the present time. This year's harvest, both in Canada & the U.S., has,

however, been very abundant, & there is every probability that shipments will soon reach, if they do not exceed, last year's proportions. The gross receipts of the G. T. from all sources in the past ½-year were £115,167 more than in the corresponding ½-year, the working expenses were increased by £47,240, leaving the net result of the traffic operations more favorable by £67,927. The amount payable by the G. T. to the Chicago & G. T., & Detroit, Grand Haven & Milwaukee companies, under traffic agreements, was £39,484 less than in the corresponding ½-year, making a total improvement in the working of the entire system of £107,411. There was an increase in the net revenue charges of £3,467, & therefore, the increase at the credit of net revenue account on the working of the ½-year was £103,944. There was a net surplus for the ½-year ended June 30, '97, of £2,708, which, added to the increase of £103,944, makes a total of £106,652, as the net result of the past ½-year's operations. You will remember that after writing off £264,974, the balance of the revenue deficiency which had accumulated to June 30, '96, there remained at the credit of net revenue account at December 31, '97, an amount of £10,289, of which, as explained in the report, \$50,000 or £10,274, has been written off on account of the amount chargeable to revenue for the reconstruction of the Victoria Bridge, the balance of £15, 2s., 10d being brought into the past ½-year's net revenue account, & making a total sum available for dividend at June 30, '96, of £106,667, which

will admit of a declaration to-day of the full ½-year's dividend on the guaranteed stock, & leave a balance of £2,271 to be carried forward to the next ½-year's account.

It may be interesting to recapitulate, in a very few words, the movement in the G. T. net revenue account since the present board came into office in May, '95. On June 30, '95, the net revenue deficiency amounted to £191,556. For the ½-year to Dec. 31, '95, there was a deficiency of £33,151. For the ½-year

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to June 30, '96, there was a deficiency of £82,062, making a total of £306,769 at June 30, '96, when the inability of the G.T. Co. to meet all the pre-preference charges terminated, & £39,086 of the total deficiency of £306,769, was liquidated out of surplus net revenue for the ½-year ended Dec. 31, '96, £2,708 from surplus net revenue for the ½-year to June 30, '97, & the remaining amount of £264,974, I may say by the wise decision of the proprietors upon the recommendation of the board, was provided from surplus net revenue for the ½-year ended Dec. 31, '97, & as I have said, we have now a net revenue surplus at June 30, '96, of £106,667 available for dividend. I am really sorry to trouble you with so many figures, which you may, perhaps, have some difficulty in following, but which, no doubt, you will see elsewhere in print; but I think the figures are remarkable themselves & especially interesting as indicating what the G.T. can really do when it finds itself under firm & economical management; & with reference to the question of economical management I will add one

or two more figures which are of interest. The ratio of working expenses of the G.T. proper for the past year was 66.46, as contrasted with 70.84 for the ½-year, when we first took office, showing a saving of expenditure in the ratio of 4.38. Those who are conversant with railway matters will, I think, appreciate the great importance of that statement.

The improvement in the revenue results of the Chicago & G.T. Ry. is a satisfactory feature in the past ½ year's operations. There was an increase in the gross receipts of that line of £74,951, & in working expenses of £31,950. The net traffic earnings were, therefore, £43,001 better than in the corresponding ½ year, and, deducting from that amount the increase of £1,319 in the net revenue charges, there remained a deficiency to be advanced by the G.T. Co. under the provisions of the traffic agreements of £8,392, against £50,074 in the corresponding ½ year of '97, an improvement of £41,682. On the other hand, the working of the D.G.H. & M. has been of a less satisfactory character, the deficiency for the ½ year to be provided amounting to £22,282, as compared with £20,084, an increase of £2,198. The aggregate gross receipts of the G.T., the Chicago & G.T., & the D.G.H. & M. amounted to £2,334,591, as compared with £2,154,222 in the corresponding ½-year of '97, an increase of £180,369. The working expenses were £1,609,803, against £1,537,868, an increase of £71,935; and the net traffic receipts were £724,788, against £616,354, an increase of £108,434. The net revenue charges of the entire system show an increase of £4,490, making the net results better by £103,944. I gave you just now the ratio of working expenses to gross receipts only in respect to the G.T. As regards the whole system the ratio of working expenses was 68.95 in the last ½-year, while for the ½-year ending June 30, '95, when we came into office, they were no less than 74.99. You will, therefore, see that our management in Canada has been able to obtain a reduction of no less than 6.04%. I think I may say, with some confidence, that—to use an expression in use on the other side of the Atlantic—this reduction in expenses "has come to stay."

The charges to capital in the past ½-year are practically confined to expenditure on account of the Victoria Jubilee bridge, & for equipping the rolling stock with air-brakes & automatic couplers to meet the requirements of the U.S. Safety Appliance Act. Six per cent. bonds of the Co. amounting to £409,400 matured on June 1 last, almost the whole of which have now been acquired, & will be held as required by the Act of 1888, as security for the 4% debenture stock. As stated in the report, a saving of £8,000 a year in our interest charges by the substitution of 4% debenture stock for these bonds has been effected. I will just add, while speaking of our financial position, that we have no floating debt whatsoever. I have mentioned when previously addressing you that in order to keep pace with our competitors for through business, & to economise to the fullest extent in the working of the line, it is essential not only to provide locomotives of modern type & greater haulage capacity, which is being gradually accomplished, but also to renew or strengthen such bridges as may be found inadequate to properly bear the heavier loads now required to pass over them, & it has therefore been determined to renew forthwith certain bridges on the G.T. line in heavier material, & thus increase their bearing capacity. It is proposed to charge the cost of these improvements to revenue account, but in order to avoid burdening the maintenance charges unduly in any one year, it has been decided to spread the expenditure over a period of at least 5 years. This period may, of course, be extended as circumstances may render expedi-

ent. The same plan will be followed in regard to the revenue proportion of the expenditure for reconstructing the Victoria bridge at Montreal, which has been fixed at £110,000, being the amount it is estimated would have been required to replace the old structure by a single girder bridge. It is stated in the report, & I am happy to confirm it to you, that we expect that the double track of the new bridge will be in full operation by the commencement of next year—a matter of the greatest consequence to us when you consider the traffic which passes over the bridge. The number of trains that run in and out of our Bonaventure station at Montreal is about 130 daily, & about 75% of these pass over the bridge. In view of the greatly increased weight of both locomotives & cars, I cannot sufficiently congratulate you & the Board, who have had a good deal of anxiety on the subject, upon the fact that we are now going to have a really strong bridge adequate for all purposes, which, moreover, will be the cause of a good deal of economy in the future.

Before leaving this question I should like to say one word as to the improvement of our line. The competition now among the great Transatlantic lines is so keen that it is only the best equipped lines & lines with the best tracks that are able to secure the bulk of the business, & it is the best equipped lines that have the most traffic. Therefore, we must look forward to a reasonable, but continual, expenditure in the direction of improvements of the rolling stock, of the track, of the gradients, & so forth, & the effect of that will be that we shall be in a position to acquire more traffic, & also that we shall in the future materially reduce our working expenses. I will give you an illustration taken from the Victoria bridge. Hitherto the cost of the upkeep of the bridge has been about £4,000 a year. Well, for the next 10 years we estimate that the expenditure will not be more than £400 a year, & in addition we expect to receive a considerable revenue from the tolls on the carriage road & the pathways with which the new bridge will be provided. A moderate estimate places that addition to our income at £5,000 a year, & I daresay it will be more. All these improvements of our line have these great advantages: we reduce our expenses, & by so doing we improve our income, & we improve the credit of our company, & we improve the value of your securities. You will remember that we recently made an agreement with the Wabash Co. for running over a section of our line from Windsor to Fort Erie, & from Welland Junction to Niagara bridge; & that agreement has been in operation since Mar. 1, & has been attended with very advantageous results to our company, & it is a pleasure to know that the same result has accrued to the Wabash Co. In its last report it adverts also to the advantages of working in a friendly understanding with our company.

I have recently returned from Canada, & whilst there I took the opportunity, as usual, of visiting several portions of our system. At the same time, I spent a good deal of time in Montreal in conferring with our officers. On this occasion I visited several points in the northwest of Ontario & studied with much interest the arrangements which are being made for improving our lake connection with Lake Erie & the Georgian Bay ports. I had also occasion to observe with satisfaction, that there has been a considerable augmentation of traffic in that interesting region in which is situated the Muskoka Lakes. It is one of the most beautiful & picturesque parts of the world, & is gradually becoming known over the whole continent of America, & the consequence is there is a great influx of tourists there every year, & we have almost the monopoly of the carriage of those travellers. That promises to be a very good business in future. The increase this year has been

about 100% over what it was last year. I did not proceed further west on this occasion, because I had the satisfaction of being accompanied by your Vice-President, Mr. Price, & he undertook to make a careful inspection of the lines, more particularly in the west. He has gone over them with great care, & I shall ask him to be kind enough to convey to you his impressions of all he saw, & of all he heard, & you may be sure that whatever expressions of opinion come from Mr. Price they are entitled to the greatest weight, because he knows what he is talking about, being an expert in all railway matters, & also being intimately acquainted, as an old official, with the whole of our property. However, I shall leave Mr. Price to speak for himself.

Leaving Mr. Price, therefore, to go to the west, I took the opportunity of making an inspection of the lines of our new connection—the Intercolonial, which, as you are aware, is a Government line. Accompanied by the General Manager, I went all over that line, which presents many features of interest. I observed with regret that the population of the country traversed by the Intercolonial in New Brunswick & Nova Scotia, was not greater than it is, & it is a matter of astonishment to me that the advantages & the opportunities offered by those countries are not better known to the public of this country. There is land of excellent quality to be had upon very cheap terms, with assistance from the Government, & the climate is temperate & agreeable. But somehow or another, the tendency of immigration, as it has always been, is from East to West, & so these fertile lands & these fine timber countries are left almost behind in the race of immigration. I can only hope that in course of time, when the West has been gradually filled up, people will remember that there is in the East of Canada, most admirable land for the purpose of immigration. You will remember that we have made arrangements with the Intercolonial Ry.—that is to say, with the Government—by which it obtained running powers over a portion of our line, so as to bring it into Montreal instead of stopping at Point Levis. I must say, after examining all the conditions of the Intercolonial line, I think the Dominion Government has acted most wisely in making that arrangement, which, at the same time, will be beneficial to ourselves.

I was in hopes that I might have brought back from Canada a message of peace & conciliation from our neighbors the Canadian Pacific authorities, & I much regret to say that no such message was given to me, & I have no such message to deliver to you to-day. I explained at some length upon the occasion of our last meeting here what were the differences which existed between our two companies. You will have understood that the reason for the attitude of the C.P. Co. in antagonising us was stated to be that we were aiding & abetting the Western American lines in the contest which was going on between them & the C.P. Co. I explained to you that much as we dislike to find ourselves at variance with our C.P. friends, it was absolutely impossible for us, under the circumstances explained, to dissociate ourselves altogether from our Western connections. The so-called trans-continental rate war has practically come to an end in consequence of the decision of the Interstate Commerce Commission to whom the matter was referred, & by the acceptance, more or less completely, by the C.P. of the finding of the commission. Well, it was naturally expected that that cause of dissension being removed, the action taken by the C.P. Co. in cutting local rates would come to an end, but I am sorry to say that has not been the case, & that the directors of the C.P. Co. have announced their intention of continuing their hostile attitude to us until we come into line with them in respect of other matters—viz., in respect of our transportation

of traffic to the Northwest Territory. It really amounts to this, that they consider—they insist, I may say—that we must conduct our passenger traffic with the Northwest Territory in subservience to & under direction from themselves. That is a position which is utterly impossible for us to accept. With the very best intentions to act in a friendly spirit towards the C.P. Co., it is absolutely impossible for us to ignore our western connections. We cannot do it, even in order to obtain peace with the C.P. Co. This being so, we are powerless in the matter. We must seek compensation in other directions, & I have no doubt we shall find it; & we must leave the C.P. authorities to be judged by public opinion, & perhaps by their own shareholders. I may add that in the course of the discussions we had with Sir Wm. Van Horne & Mr. Shaughnessy, finding it impossible to come to an understanding, we made them this proposal, to refer all the questions at issue without any reservation whatsoever to arbitrators. I think that is a fair offer. It shows that we are not conscious of doing anything which is otherwise than fair & reasonable. That offer was as distinctly refused as it was distinctly made by us, & so the matter stands. Sir Wm. Van Horne will not declare himself opposed to the principle of arbitration, or to the arbitrators whom we suggested, but he would only agree to enter into arbitration under such conditions & limitations & restrictions as would have placed us at the very outset in a position of inferiority & subservience to his company which we never could accept.

Well, I turn with satisfaction to another matter, as to which I am able to make an announcement which I think will give you pleasure. You are aware that for a considerable time past negotiations have been pending between the G.T. Co. & the Central Vermont for the establishment of relations on a proper business-like footing, & I am able to tell you that in the last few days, & since the issue of the report—otherwise it would have been mentioned in the report—we have heard that all the interests connected with the Central Vermont have combined & entered into an agreement of a satisfactory description. It would not be proper for me to go into details as to what the arrangement is, for this reason—that certain formalities have yet to be conducted on the other side before the matter is absolutely settled, but I think I can affirm with some confidence when I tell you that the arrangement is virtually completed, & on the next occasion of our meeting I hope to have the honor of explaining the details of the arrangement & asking you to ratify it. I can only say at present that we shall continue on a permanent footing with a company whose operations in concert with our own will be most advantageous to both companies. I must not omit to say that this result is in great measure attributable to the skill & unwearied patience of our General Manager, Mr. Hays.

While the retrospect of the last year or two affords matter for considerable satisfaction, I think we may confidently look forward to the future. On all sides there are evidences of improving prosperity in the U.S. There has been an abundant harvest, the farmers have paid their debts, & they are so well off that they are holding back their harvest at the present time in expectation of higher prices. Politics are quiet in the U.S., & as a result of the general prosperity, that strange but dangerous controversy—the currency controversy—is dormant. I wish I could say it were dead. Everything points to prosperous times in the immediate future, & therefore there should be increased prosperity for the railways, & no doubt they will partake of that prosperity. At the same time it has been the case that while other industries & other business have improved, the railways have not progressed in the same ratio, & the reason has been this

—that they have been exposed, & you know the old story which has been told in this hall over & over again, they have been exposed, owing to the uncontrolled competition which prevails amongst American roads, to a perpetual falling away of the rates. The losses thus occasioned have been met, so far as possible, by improved methods of transportations, by improved types of locomotives, & so forth, & by decrease of operating expenses. But there must be an end even to that. Fortunately there appears to be gradually growing up in the U.S. a more friendly & better feeling on the part of the community towards railways than has hitherto existed. It was said at one time, in the earlier days of the English railways—I am happy to say it does not apply to the English railways now—that railways have made everybody's fortune except their own. That observation applies with much truth to many of the American lines, & people are beginning to realize it. The remedy for the evils I have pointed out is generally recognized to be some interference on the part of the legislatures so as to protect railways against themselves, to allow what are called pooling arrangements—that is to say, contracts among the different companies by which they may divide their business or maintain their rates, such contracts to be enforceable in the courts of law. The direction of the public mind, I think, is gradually tending to the introduction of some legislation of that sort. It would be unattended with any danger to the public, who fear increase of rates, because the Interstate Commission could be given powers to prevent any undue raising of the rates.

Turning to Canada, you know the Dominion is doing extremely well. The Finance Minister was able, for the first time for some years, this year to declare a surplus—a surplus, I think, of \$1,575,000. The imports during last year have increased by \$21,000,000, & exports by \$25,000,000. All these things are in the right direction, & imply good business & increased prosperity for the carrying trade. We are doing everything we possibly can to put ourselves in a position to avail ourselves of this current of prosperity. At Portland we are making every preparation for a great export trade during the winter months, & are expecting to have a heavy, & I hope, a prosperous season. As it is, during the past ½-year there was an increase in our exports at that port of no less than 74,425 tons. There is one other hopeful feature of high importance in its bearing upon the mutual prosperity of the U.S. & Canada, & that is the appointment of the International Commission which has been holding its sittings lately in Quebec, & which is shortly to meet again at Washington. Several of the questions submitted to the Commissioners are matters which intimately concern the G.T. Co., such, for instance, as the question of bonding privileges. At the present time goods are allowed to go through in bond from one part of the U.S. through Canada to another part of the U.S., & from time to time there have been agitations with a view to abrogating those privileges. For my own part I believe the great American interests concerned will never allow such a retrograde step to be taken, because it is to the interest of the Western States of America & the New England States that this privilege should remain. At the same time a good deal of bad blood has been occasioned by the renewal from time to time of this agitation, & it would be very satisfactory if the matter could be dealt with in a treaty undertaking so as to remove it from the sphere of everyday politics. Then there is another question which interests us, what is called the alien law, by which citizens of one country are debarred from working in the other country unless they reside there, & for us, in such touch as we are with the U.S. frontiers at Niagara, Fort

Erie, & Windsor, where there is constant traffic of passengers between the American shore & the Canadian shore, it is a matter of great importance that this restriction should be removed. When the law was passed it was never intended, I believe, to apply to Canadian citizens, but it has been so applied & it has caused a great deal of disagreeable friction on the frontier. That is one of the matters which I hope will be adjusted by the Commissioners. Then there is the question of tariff, in which we are vitally concerned, because the Grand Trunk is the largest taxpayer in the Dominion of Canada. Therefore any relief we can get in reduction of duties will be so much to the advantage of this company. Whatever measures of success may attend the labors of the Commission the real significance of their appointment lies in this, that it is the outcome of the strong desire which has been expressed in many ways by the two countries to live together on terms of good fellowship, so that while each maintains its own separate nationality they may tend more & more to become one community for all purposes of social & industrial development.

In conclusion, I will ask you to pass the following resolution: "That the report of the directors & accounts for the ½-year ended June 30, '98, now presented, be approved & adopted, & that a dividend of £2% be paid to the holders of the 4% guaranteed stock."

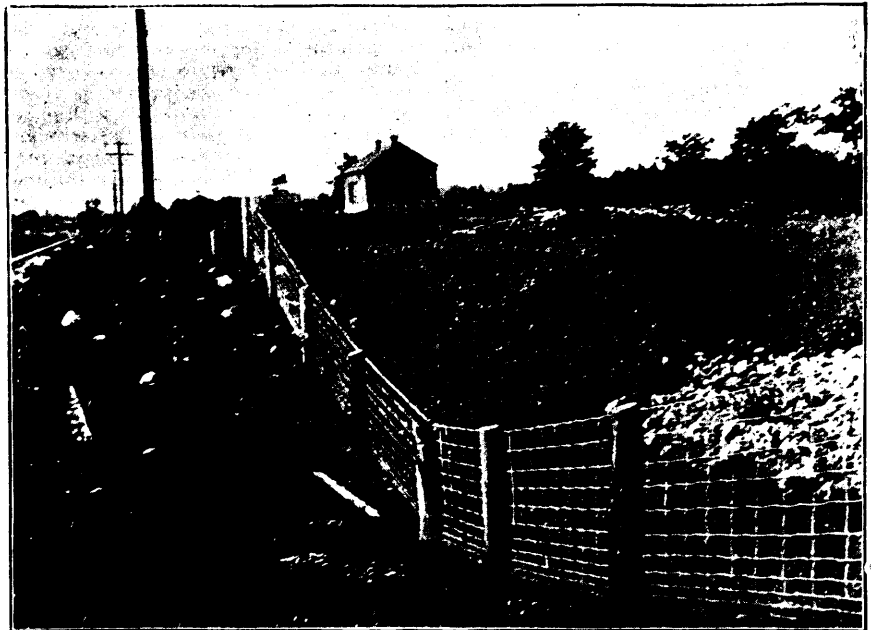
Vice-President Jos. Price said: I have recently returned from Canada & the U.S., where I spent about 2 months, having during that time made a very careful inspection of the track & rolling stock of the G.T.R. After spending several days in Montreal considering some important matters with the President & General Manager, I commenced with the Portland division, 297 miles, & the terminal property at that point. I found the permanent way well cared for, & the ballasting well attended to. Great improvements have recently been made at Portland, where 13 miles of new sidings have been laid ready for this winter's business. The elevator, which was finished about a year ago, is a fine structure & is answering all expectations; 9,000,000 bushels of grain were passed through this elevator last winter. While there we discussed what was the most useful traffic for railways. With modern rolling stock immense areas of land are required to feed a 1st-class railway like the G.T.R. with grain traffic. For example, the average crop of wheat is about 15 bus. per acre (except in Manitoba, where it is heavier). One of our 30-ton box cars has a loading capacity of 1,000 bushels; therefore, it takes about 70 acres of land to feed one box-car, & as our new locomotives are capable of hauling 40 cars, it will be seen that to supply one of these trains takes the produce of no less than 2,800 acres of land. With the boundless extension of the great West, however, the railways are well supplied with tonnage. After finishing the Portland division I went over the Quebec & Montreal section, 174 miles, which is in good order, & quite equal to the traffic on that section. From Montreal I proceeded west to Niagara, 421 miles, over the main line of the G.T.R. & the Great Western division. Both were in excellent order. A very large portion of the G.W. division, that from Toronto to Niagara Falls, has been reballasted with a very superior quality of ballast obtained from Lake Erie, near Port Colborne. At Niagara Falls the new double track girder bridge, erected in place of the old Suspension bridge, is a very fine, solid structure, capable of supporting any amount of traffic. Proceeding west to Port Huron, 182 miles, I went over the workshops at that point. These shops are fitted with the most modern improvements, & very good work is done there. From Port Huron I went over the Chicago & G.T. to Chicago, 335 miles, & found the track very much improved. The

gradients are good, & one of our new large 85-ton locomotives can haul a train of 40 cars over that section needing the assistance of pushers at only two points—viz., Flint & Valparaiso. Returning from Chicago, I came over the Wabash connection to Detroit, 272 miles, the shortest line between Chicago & Detroit. It is a line with very favorable gradients, & with the good gradients upon the loop line division of the Great Western, affords the Wabash a very good line from Chicago to the Niagara River, under our contract with that company, which is working satisfactorily. From Detroit I returned to Montreal, 557 miles. Altogether I found the permanent way of the main line of the G.T. system in excellent order, so that trains can be run as fast as upon any other line in the country with perfect safety.

With regard to the rolling stock, the improvements since I was there 3 years ago have been simply wonderful. Our trains are made up of new cars, & the best of the old rolling-stock reconstructed in the same style as the new cars; in fact, I may safely say that they compare favorably with the best trains in the country. I did not see a shabby train upon the whole system. Some misgivings have been expressed here lest the rolling stock & roadway were being impoverished to secure the reduction in expenses. The shareholders may rest that this is not the case. Indeed, at the very time when Mr. Hays was reducing the working expenses he was actually charging in the expenses more than he was spending, & this enabled him to build up a locomotive & car renewal fund, all at the expense of revenue, out of which he has been able to pay for 20 new 85-ton locomotives & 26 new 1st-class passenger cars (all of which have been put upon the line during the last 6 months), still leaving a reserve fund of £85,000 for further improvements. It is really wonderful how he has been able to accomplish so much in this direction & still to establish such a large saving in the ratio of working expenses. With regard to the stations & station yards, they are models of neatness, & lately there have been finished 2 very complete

yards where the traffic is heavy, one at York, near Toronto, & the other at Belleville. The yards are so constructed that access is given to every siding from one straight line on the outside. During my examination I had the advantage of the attendance of the practical operating officers. Mr. Hays has selected a very efficient staff of energetic men who thoroughly understand their duties. In Mr. McGuigan, the General Superintendent, we have a most efficient officer, & in Mr. Reeve, the traffic Manager, Mr. Morse, the Mechanical Superintendent, & the divisional superintendents, we have men who are rendering excellent service to the Co.

Having passed over 3,000 miles of the system, all by daylight, & some of it, including the main line, twice, I am able to speak with confidence of its good general condition. Notwithstanding the competition which has been introduced by new lines, you may rest assured that the old G.T.R. is undoubtedly the strongest line in Canada in the district which it occupies, having access to every important town in Quebec & Ontario, & through its connections at Chicago, with all the important U.S. railways. Mr. Hobson, the Chief Engineer, who was associated with me for many years on the Great Western of Canada, is another valuable official of the Company. He has under his supervision the new Victoria-bridge, which will be completed in January, a magnificent work. As it is built outside the old tube, one can easily see the difference between the two, as the old tube is still in existence, being gradually cut away, but the trains are now passing over on the new girders from one end to the other. The old tube looks only about ⅓ the size of the new bridge, & looking from the rear of the train, the difference is very perceptible after you have passed through. I will conclude by giving an example of the thorough manner in which the line is being operated by mentioning that in passing both ways on the main line, between Toronto and Montreal, with the working time-table before me, I could have set my watch by our arrival at any station on the line. The freight traffic is also moved ex-



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peditously; for instance, goods delivered at Toronto before 2 o'clock in the afternoon are delivered in Montreal on the following morning by 10 o'clock—333 miles. I wish to return my best thanks to Mr. Hays for the facilities rendered me in carrying out this inspection, which was rather trying work owing to the extreme heat, the thermometer being about 94 to 100 all the while. But the work was extremely interesting, enabling me to see the enormous improvement in the property & rolling stock compared with what it was when I last saw it 3 years ago, & the shareholders can rest assured that they have in Mr. Hays one of the most competent managers on the continent of America. In 2 years the debt incurred to keep up the debenture stock interest, over £300,000, has been paid off, we are paying £100,000 in dividends, & at the same time the roadway & rolling stock have been placed in 1st-rate condition. I have much pleasure in seconding the resolution proposed by the President for the adoption of the report & accounts, & for the declaration of the dividend on the guaranteed stock.

Mr. JEFFRIES regretted the Chairman had been unable to come to an arrangement with the C.P.R. Still, he thought they might congratulate the board on the improvement that had taken place in their property, & upon the fact that their General Manager had been able to reduce the expenses to such an extent as had been mentioned. He should like to know what decision had been come to with regard to the Belt Toronto line.

MR. BAKER considered the Chairman had hardly correctly represented the cause which originated the unfortunate & unsatisfactory war of rates from which the various trans Atlantic lines had suffered.

THE CHAIRMAN, in reply, said that they were so much impressed, on inspection of the Belt Line, with the undesirability of retaining it, that they took upon themselves the immediate responsibility of closing the line. Although endeavors had been made to get rid of the line they had been unable to do so. Mr. Baker had charged this Co. with being the originator of the rate war. There was no foundation for such a statement.

The resolution was then put to the vote & carried unanimously amid applause.

Mr. JEFFRIES—I have great pleasure in proposing a vote of thanks to the President & his colleagues.

The motion was carried unanimously.

The PRESIDENT—Mr. Jeffries & gentlemen, I am extremely obliged to you on behalf of my brother directors & on my own part for the very kind expressions you have used.

Grand Trunk Earnings, Expenses, &c.

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

	1898	1897	Increase.	Decrease.
July.....	\$1,860,884	\$1,992,628	\$131,744	
August.....	1,992,802	2,091,235	98,433	
Sept.....	2,261,148	2,341,960	80,812	
Oct.....	2,260,573	2,348,463	87,890	
	\$8,375,407	\$8,774,286	\$398,879	

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

GRAND TRUNK RAILWAY.

Revenue statement for September:

	1898.	1897.	Increase.	Decrease.
Gross receipts.....	£383,980	£404,511	£209,31	
Working expenses..	228,396	241,240	12,844	
Net Profit.....	155,184	163,271	8,087	

Aggregate for 3 months to Sep. 30:

	1898.	1897.	Increase.	Decrease.
Gross receipts.....	£1,025,603	£1,097,684	£71,481	
Working expenses..	654,557	697,520	42,963	
Net Profit.....	371,046	399,564	28,518	

CHICAGO & GRAND TRUNK RAILWAY.

Revenue Statement for September:

	1898.	1897.	Increase.	Decrease.
Gross receipts.....	£62,091	£57,800	£4,291	
Working expenses..	40,985	49,048	9,077	
Net profit.....	12,106	8,752	3,354	

Aggregate for 3 months to Sept. 30:

	1898.	1897.	Increase.	Decrease.
Gross receipts.....	£175,203	£167,944	£7,259	
Working expenses..	142,635	148,271	£5,636	
Net profit.....	32,568	19,673	12,895	

DETROIT, GRAND HAVEN & MILWAUKEE.

Revenue statement for September:

	1898.	1897.	Increase.	Decrease.
Gross receipts.....	£18,946	£22,118	£3,172	
Working expenses..	12,445	13,715	1,270	
Net profit.....	6,501	8,403	1,902	

Aggregate for 3 months to Sept. 30:

	1898.	1897.	Increase.	Decrease.
Gross receipts.....	£55,661	£59,190	£3,529	
Working expenses..	38,410	40,415	2,005	
Net profit.....	17,251	18,775	1,524	

RECEIPTS OF THE SYSTEM.

From July 1 to Oct. 31, the receipts were:

	1898.	1897.	Increase.	Decrease.
Grand Trunk.....	£1,407,865	£1,501,376	£93,511	
Chicago & G.T.	238,882	226,558	£12,324	
D., G. H. & M..	74,228	74,999	771	
Total.....	£1,720,975	£1,802,933	£81,958	

Mileage both years, G.T., 3,512; C. & G.T. 335; D., G. H. & M. 189. Total 4,036.

DETAILS OF GRAND TRUNK RECEIPTS.

Aggregate July 1 to Sep. 30.

	1898.	1897.	Increase.	Decrease.
Passengers, number.....	2,232,877	2,030,978		
amount.....	£337,361	£360,426		
Immigrants, number.....	3,619	3,130		
amount.....	£2,062	£2,049		
Mails, express, &c.....	£54,554	£55,071		
Freight, tons.....	2,136,803	2,406,781		
amount.....	£599,883	£666,798		
Miscellaneous receipts.....	£31,745	£12,739		
Total receipts.....	£1,025,605	£1,097,083		
Decrease.....	£71,478			

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 or decrease.
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+	
Mar. 2,079,479.06	1,326,245.55	753,233.51	233,000.67+	
April 1,958,461.88	1,241,371.19	717,090.69	239,371.19+	
May 2,852,999.16	1,326,336.85	926,662.31	89,973.35+	
June 2,138,110.04	1,320,714.67	817,395.37	68,794.47+	
July 2,010,363.27	1,320,674.47	789,688.79	183,670.08+	
Aug. 2,210,865.29	1,327,828.41	883,036.88	121,360.23+	
Sep. 2,396,385.29	1,303,871.63	1,092,513.66	32,622.62+	
	\$18,234,633.01	\$11,394,726.85	\$6,839,906.16	\$214,055.64+
		- Decrease.		

The approximate earnings for October, 1898, were \$2,685,000.00, against \$2,784,000.00 in October, 1897, a decrease of \$99,000.00.

AUXILIARY LINES.

DULUTH, SOUTH SHORE & ATLANTIC.—The approximate earnings for Oct. were \$155,055, as compared with \$150,235 for the corresponding period, an increase of \$4,820. For the 10 months ending Oct. 31 they were \$1,375,009.26, as compared with \$1,184,880.27 for the corresponding period, an increase of \$194,948.99.

The net earnings for the 8 months to the end of Aug. were \$425,091, as against \$326,578 for corresponding period.

MINERAL RANGE, HANCOCK & CALUMET.—The approximate earnings for Oct. were \$36,396, as compared with \$27,474 for the corresponding period, an increase of \$8,922. For the 10 months ended Oct. 31 they were \$301,397.57, as compared with \$240,815.05 for the corresponding period, an increase of \$60,582.52.

MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE.—The approximate earnings for Oct. were \$508,639, as compared with \$472,713 for the corresponding period, an increase of \$35,926. For the 10 months ended Oct. 31 they were \$3,440,167.24, compared with \$3,098,566.49 for the corresponding period, an increase of \$341,600.75.

The net earnings for Aug. were \$139,673, as against \$121,728 for corresponding period, making for the 2 months to the end of Aug. \$234,080, as against \$264,703.

Canadian Pacific Railway Land Sales.

	Acres.		Amount.	
	1898	1897	1898	1897
Jan.....	22,044	9,443	\$73,924.00	\$33,872.00
Feb.....	20,650	8,163	66,390.00	27,573.00
Mar.....	33,421	8,727	109,010.00	29,080.00
April.....	43,145	10,785	140,275.00	37,145.00
May.....	43,148	15,802	137,835.00	51,508.00
June.....	49,203	18,964	160,199.00	63,160.00
July.....	39,512	17,083	123,011.00	55,949.00
Aug.....	19,449	9,460	63,911.00	30,209.00
Sept.....	18,007	16,066	56,936.00	54,314.00
Oct.....	17,026	25,273	55,370.00	85,932.00
Totals.....	395,605	139,766	\$986,070.00	\$468,742.00

Calgary & Edmonton Railway Co.

The following report for the year ended June 30 was presented at the adjourned annual meeting at Toronto Oct. 26:—

The gross earnings, after deducting earnings from Government service, amounted to \$357,586.96, as against \$131,630.21 for the previous year, an increase of \$225,956.75, or 171.66%. The total expenses amounted to \$163,207.88, as against \$64,315.46, an increase of \$98,892.42, or 153.76%. The percentage of expenses to earnings is 45.64%, as compared with 48.86% per cent for the previous year. The net earnings amounted to \$194,379.08, as against \$67,314.75 for the previous year, an increase of \$127,064.33.

Earnings from passenger traffic (including Government service) amounted to \$96,250.17, as compared with \$38,965.74, an increase of \$57,284.43, or 147.01%, this increase being to a considerable extent attributable to earnings from fares of laborers for Crow's Nest Pass Ry., as well as from passengers for the Yukon over the Edmonton Branch. Freight, express, mail & miscellaneous earnings (including Government service) amounted to \$266,663.96, as compared with \$96,493.06 for the previous year, an increase of \$170,170.90, or 176.36%. Of this increase about \$74,000 has been derived from earnings on Crow's Nest Ry. construction freight, leaving a natural increase of about \$96,000, or 100%, which must be considered very satisfactory.

The total increase in operating expenses of \$98,892.42 is, the directors consider, not unsatisfactory, taking into account the large increase in traffic & the fact that the Co. had to meet some exceptional expenditure, such as, water supply, \$6,179.62; wrecking, \$5,386.49; & damage by freshets, \$9,190.83, caused by the high water during June, 1897. A considerable further amount will have to be paid out during the current year for work rendered necessary as a result of damage by freshets in 1897.

The total tonnage carried during the year amounted to 127,847 tons as against 27,018 tons for the previous year, an increase of 100,829 tons, of which 73,113 tons consisted of Crow's Nest Pass Ry. construction material.

During the year the railway carried 1,103,050 bus. of grain, as compared with 234,235 bus. during the previous year, an increase of 868,815 bus., & it is estimated that, though the yield per acre may not be as heavy this year as last, the increased area under cultivation in the districts tributary to the Co.'s railway will give a larger crop than last year. The cattle trade is increasing, as well as the export of dairv & other farm products, & settlers along the line of railway are doing well.

GENERAL BALANCE SHEET JUNE 30, 1898.

ASSETS.	
Cost of road	\$6,458,940 00
Sundry debtors	20,609 41
Cash in Bank	72,611 07
Interest deferred	327,536 40
	<u>\$6,879,696 88</u>
LIABILITIES.	
Capital stock paid up	\$1,000,000 00
First mortgage bonds	5,458,940 00
Coupons due & not presented	560 94
Interest unpaid	327,536 40
Profit & loss account	92,659 54
	<u>\$6,879,696 88</u>

INCOME AND EXPENDITURE ACCOUNT.

EARNINGS.	
Balance brought forward	\$23,841 19
Passenger	\$ 96,250 17
Freight	258,064 97
Express	2,778 70
Mail	4,477 38
Miscellaneous	1,342 91
	<u>\$362,914 13</u>
Less amount of Government service included in above	5,327 17
	<u>\$357,586 96</u>
	<u>\$381,428 15</u>
Balance brought down	\$218,220 27
Interest received	120 15
	<u>\$218,340 42</u>
OPERATING EXPENSES	
General Expenses	\$ 2,680 10
Conducting of transportation	36,459 73
Management expenses	2,899 70
Motive power	48,653 08
Maintenance of way & structures	65,272 61
Maintenance of cars	7,242 66
	<u>\$163,207 88</u>
Balance carried down	218,220 27
	<u>\$381,428 15</u>
INTEREST ACCOUNT.	
1 3/4% paid in cash on account	
Jan. 1, '98, coupon	£19,629 15 0
2% paid in cash on account	
July 1, '98 coupon	22,434 0 0
	<u>£42,063 15 0</u>
Less Government subsidy for year \$80,000	16,438 7 2
	<u>£25,625 7 10</u>
Expenses re service of coupon [London]	1,223 69
Balance carried forward	92,659 54
	<u>\$218,340 42</u>

As security for the annual subsidy the Government retained & now hold 407,402 acres of the Co's land grant.

The following were re-elected: President, H. C. Hammond; Vice-President, N. Kingsmill, Q.C.; other directors: J. J. Kingsmill, Q.C.; E. B. Osler, M.P.; C. E. L. Porteous, D. W. Saunders, R. A. Smith. Secretary, R. A. Smith.

Pullman Palace Car Company.

At the annual meeting of this company, in Chicago, Oct. 13, the directors were re-elected. The stockholders voted to issue \$18,000,000 of new stock to capitalize the existing surplus. This will be distributed to stockholders of record Nov. 1, making a stock dividend of 50%, each holder receiving 1 share of new stock for each 2 shares now held by him. The report for the year ended July 31 shows the following statistics of traffic, earnings & capital:

Earnings of cars	\$8,598,837
" patents	12,138
" from manufacturing, etc.	2,063,893
	<u>\$10,674,868</u>
Operating expenses	\$3,776,315
Paid other interests in lines partly owned	831,634
Repairs in excess of mileage	793,036
Dividends	2,880,000
	<u>\$ 8,280,985</u>
Surplus	\$ 2,393,8

ASSETS.	
Cars & equipments	\$22,153,304
Investments in other car assns	2,896,468
Plant at Pullman	8,113,767
Other shops & real estate, etc	1,573,295
Lumber, supplies, etc., inc. cars unshipped	4,099,948
Patents	114,609
Furniture	75,000
Securities, loans, cash, cash items, etc.	24,056,714
	<u>\$63,083,105</u>
LIABILITIES.	
Capital stock	\$36,000,000
Special dividend Aug. 15	7,200,000
	<u>\$43,200,000</u>
Surplus	19,883,105
	<u>\$63,083,105</u>

The surplus invested in the assets of the Co. s \$29,896,842; but from this deductions are made aggregating \$10,013,737, reducing the net surplus to the sum stated above. The deductions include depreciation of cars & other property, \$1,577,666; settlement with Central Transportation Co., \$1,195,930; franchises, patents, etc., \$1,190,760; special dividend, \$7,200,000. These written-off items are partly offset by an item of \$1,150,619 appreciation in value of securities.

Following are comparisons with the preceding year:

	1898.	1897.
Car earnings	\$ 8,598,837	\$ 7,743,344
Other income	2,076,030	1,231,544
Total	<u>\$10,674,868</u>	<u>\$ 8,974,888</u>
Operating expenses	3,776,314	3,511,868
Other assns	831,634	812,169
Other expenses	793,036
Dividends	2,880,000	2,880,000
Total	<u>\$ 8,280,984</u>	<u>\$ 7,204,037</u>
Surplus	2,393,884	1,770,851

From the statement made by Acting President R. T. Lincoln at the annual meeting the following additional statistics are gathered:

Cars built for the Co. during year	23
Cost of same (av. \$15,989 each)	\$367,739
Passengers carried	5,356,912
previous year	4,852,398
Car miles	201,295,321
previous year	190,652,758
Cars owned & controlled, 1st class	2,039
and class	371
Mileage of roads	121,662
(a) Product of car works, value	\$10,368,256
(b) Product of other industries, inclng rentals	1,032,087
Total a and b	\$11,400,343
previous year	4,681,618
Average number on pay roll at Pullman	5,012
Average pay per capita	\$539
Average pay of journeyman mechanics at Pullman per day	\$2.39
Same, previous year	\$2.28
Deposits in Pullman Savings Bank	\$679,332
Increase from previous year	175,893

If the cars run during the past year had made the 201,295,321 miles in trips of 375 miles each, the number of trips would have been 536,787, & the 5,356,912 passengers would have averaged just about 10 to each car for each trip.—Railroad Gazette.

Canadians in Kentucky.

The Richmond, Nicholasville, Irvine & Beattyville Ry. was sold under foreclosure at Versailles, Ky., Oct. 6. The road was sold last year to D. Shanahan & Co., who transferred the property to A. Segal, of Philadelphia. The latter defaulted in the payments after making a deposit of \$25,000, & a resale of the road was ordered. At the sale, Oct. 6, the property was purchased at \$160,000 by Col. B. H. Young, of Louisville, who represents a syndicate composed of: A. E. Fawke, Liverpool, England; G. P. Magann & A. Fraser, railway supply dealers, Toronto, Ont.; G. W. Evans, C. D. Chenault, C. H. Chenault, J. S. Powell, B. B. Million, D. W. Chenault, J. C. Chenault, G. W. Evans, jr., J. B. Chenault, of Richmond, & Col. B. H. Young, of Louisville. In addition to the purchasing price of \$160,000, the syndicate agrees to return to Mr. Segal \$12,000 for improvements made in the property.

The road extends from Versailles, Ky., to Irvine, 61 miles. It was built about 8 years ago at a cost, it is said, of nearly \$2,000,000, including equipment. Mr. Fawke & other English investors recently purchased 2,500 acres of coal & timber lands in Perry County Ky., & the railway will probably be extended to them. The road is said to be in splendid shape & to now be on a paying basis. It is understood that Messrs. Magann & Fraser have a controlling interest in the new organization.

The sale above mentioned has been set aside by Judge Barr, in the Louisville Circuit Court, on the petition of Shanahan & Co. Special Commissioner G. Durelle has been ordered to make another sale at the upset price of \$210,000, which was offered by J. Stiles, Trustee.

Victoria & Sidney Railway.

At the recent annual meeting at Victoria, B. C., the report presented covered from July 1, 1896, to June 30, 1898, as follows:

RECEIPTS.	
Passenger	\$16,902 50
Freight	17,631 63
Mail & telephone	824 09
	<u>\$35,358 22</u>
EXPENDITURE.	
Maintenance	\$ 5,744 30
Motive power	13,065 23
Repairs to cars	346 21
Operating	15,564 35
	<u>\$34,720 90</u>

Number of passengers carried..... 37,576.
Tons of freight carr.ed 35,110.

The following were elected: President, George Riley; Vice-President, P. C. Dunlevy;

THE BARRETT TRACK JACK.

Recommended as a standard by the Road Masters' Association of America.

These Jacks are made with Malleable Iron Frames, Steel Pawls, Machinery Steel Bearings and Pivots, forged Steel Rack. The wearing parts are removable and readily renewable at slight expense. The rectangular base gives great lifting strength and fits into close quarters better than other shaped stands. Adaptable to either high or low set loads.

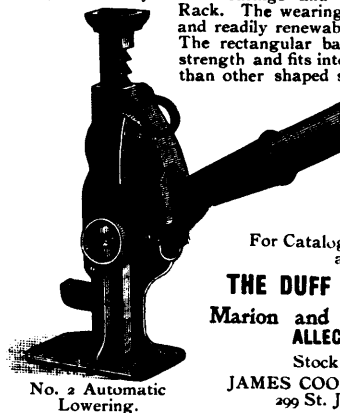
The Barrett Jack is the safest, best and strongest known to the railroad world to-day.

Lifting capacity, 10 to 15 tons.

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No. 2 Automatic Lowering.



No. 1 Trip.

Directors, W. Macaulay, R. L. Drury, S. Rounding. The officials are: General Manager, T. W. Paterson; Sec.-Treas., S. Rounding; Auditor, A. H. Harman.

Financial Notes, &c.

Calgary & Edmonton.—The net earnings or Sept. were \$5,767.93 as against \$15,734.43 in Sept. '97.

Central Vermont.—Steps have been taken in the Vermont Legislature to re-incorporate this Co. under the name of the Central Vermont Ry. Co., instead of R.R. Co. as heretofore. The capital stock is to be \$3,000,000, & the incorporators are authorized to buy the property of the old Co., as well as the Missisquoi Valley, the Burlington & Lamoille Valley, to lease the New London Northern, & to hold the stock of the Montreal & Vermont Junction. The incorporators are E. C. Smith, D. D. Ramlet, C. M. Hays, C. Percy, J. G. McCullough, Wm. S. Webb, E. H. Baker & S. E. Kilner. Messrs. Hays & Percy are G. T. R. officials.

Columbia & Western.—The annual meeting will be held at Trail, B.C., Dec. 14.

F. A. Heinze, who sold the C. & W. Ry. from Robson to Rossland, & his smelter at Trail to the C.P.R. Co. for some \$800,000, has, it is said, made a claim on that Co. for another \$100,000 for personal property at the smelter, which, he contends, was not intended to be included in the transfer to the C. P. The latter, on the contrary, claims that it bought everything in sight.

Great Northern (U.S.)—The annual report for the year ended June 30 is as follows:—

	1898.	1897.
Gross earnings railway system proper.....	\$22,577,544	\$19,436,060
Gross earnings other proprietary companies.....	2,443,650	2,300,165
Total earnings.....	\$25,021,194	\$21,736,225
Operating expenses & taxes.....	13,469,913	13,230,222
Net earnings.....	\$11,551,182	\$8,506,003
Miscellaneous income.....	1,523,715	664,921
Total net income of system.....	\$13,075,897	\$9,170,925
Fixed charges & guarantee dividend on St. P. M. & M. stock.....	6,413,740	6,380,208
5% dividend on G. N. preferred stock.....	1,500,000	1,250,000
Total charges.....	\$7,913,740	\$7,632,208
Surplus.....	\$5,162,157	\$1,538,716

At the annual meeting at St. Paul, Minn., Oct. 9, J. H. Schiff & H. W. Gannon, whose terms had expired, were re-elected directors. J. N. Hill was elected to succeed Lord Strathcona & Mount Royal.

Kaslo & Slocan.—At the annual meeting at Victoria, B.C., Oct. 16, R. Irving, heretofore Traffic Manager & Secretary, was elected President in place of D. J. Munn. G. F. Copeland was elected Vice-President & Treasurer in place of A. Guthrie, & J. Jeffries was elected Secretary.

Kingston & Pembroke.—A special meeting of shareholders will be held in Kingston Nov. 21, to authorize the directors, pursuant to the Act passed at last session of the Dominion Parliament, to issue preference stock not exceeding \$1,000,000, to pay the interest on the Co's bonds or debentures issued up to Jan. 1, 1899, & the floating liabilities of the Co.

Kootenay Valley.—W. H. Thompson, A. Allen, C. Shields & L. F. Gordon, Seattle, Wash.; G. Alexander, Kaslo, B.C., & H. M. Foster, London, Eng., have been incorporated at Spokane as the Kootenay Valley Ry. Co., to take over the line which is building from Bonner's Ferry, Idaho, to Kaskanook, B.C., & the portion of which on the Canadian side is called the Nelson & Bedlington. The line will form a part of the Kootenay Railway & Navigation Co.'s system, full particulars of which were given in our Sep. issue, pg. 181.

Northern Pacific.—At the annual meeting in New York, Oct. 20, the following directors were elected:—E. D. Adams, R. Bacon, D. Clark, C. H. Coster, R. M. Galloway, B. Ives, D. S. Lamont, C. S. Mellen, J. G. Moore, W. Oakman, S. Spencer, J. Stillman & E. B. Thomas.

Qu'Appelle, Long Lake & Saskatchewan.—The net loss in operating for Sep. was \$3,323.25, compared with net earnings of \$126.60 for corresponding period.

Quebec Central.—The traffic receipts for Sep. were \$46,647.29, compared with \$43,932.26 for corresponding period. There was an increase of \$3,787.88 in passenger receipts & a decrease of \$1,079.06 in freight.

The aggregate traffic receipts for the 9 months to Sep. 30 were \$344,178.90, compared with \$357,267.48. Passenger receipts increased \$7,938.87, & freight decreased \$20,977.96. The earnings per mile per month were \$179.54, a decrease of \$6.82 from corresponding period.

Quebec & Lake St. John.—The gross earnings for Aug. were \$3,894 more than for the corresponding period.

Quebec, Montmorency & Charlevoix.—For information respecting this Co., see under head of Electric Railways further on in this issue.

Rutland R. R.—The control of this road has passed into the hands of a few New York & New England capitalists, including W. K. Vanderbilt, C. M. Depew, W. S. Webb, H. McK. Twombly, of New York; W. H. Ball & E. Harding, of Boston, & P. W. Clement, of Rutland, Vt. Mr. Clement has for many years been the President of the road, & about a dozen years ago he sold to the Delaware & Hudson Canal Co. a controlling interest in the shape of \$3,000,000 of preferred stock & \$1,000,000 of common stock. This Delaware & Hudson interest constitutes part of the securities embraced in the present transfer. The Central Vermont Ry. Co. had a 999-year lease of the Rutland road up to May 7, 1896, on which date the property was surrendered to its owners in consequence of a default by the lessee company in the payment of the stipulated rental of \$365,000 a year. Since that surrender the Rutland road has practically been in the market, & there has been considerable conjecture regarding its final disposition. The Grand Trunk has been mentioned as a probable purchaser. Its present control insures its operation in the Vanderbilt interest. The total capitalization of the Rutland R. R. Co. is \$6,719,100, including \$2,480,000 of common stock & \$4,239,100 of preferred stock. The funded indebtedness consists of \$3,500,000 of 1st, 2nd & consolidated mortgage bonds.—Railway World.

For further information about this line, see under head of Railway Projects elsewhere in this issue.

The Northern Pacific announces a quarterly dividend at the rate of 4% per annum on the preferred shares.

The St. Louis, Kansas & Southwestern Ry. was sold at auction at Arkansas City, Oct. 22, by the Master-in-Chancery for \$150,000 to S. Barker, of Hamilton, Ont., as representative of bondholders, to the extent of \$800,000. The road, which is 59 miles long, runs from Arkansas City to Anthony, & was at one time part of the 'Frisco system.

The Halifax Chronicle very kindly says: "THE RAILWAY AND SHIPPING WORLD, devoted to the interests of steam & electric railways, shipping, express, telegraphs & telephones, is a publication which is certain to become very popular with Canadians. It is neatly printed & has an abundant supply of well-arranged & interesting facts relating to the interests it aims to serve."

RAILWAY PROJECTS.

Amherst to Northport.—At a meeting of the ratepayers of the town of Amherst, N.S., Oct. 26, the council was authorized to make a grant toward the construction of a railway from Amherst to Northport on Northumberland Straits. The length of the road would be about 20 miles, & it would open up some valuable coal properties, rich agricultural areas, & afford facilities for the dry shipment of lumber to European markets. The route would be parallel to that of the unfinished Chignecto ship railway, about 4 miles from it at Amherst & 10 miles at the eastern terminus. The Co. expects to run a survey through this autumn.

Chilcoot Pass to Dawson.—A. Ferguson, Solicitor, Ottawa, gives notice of application to the Dominion Parliament for the incorporation of a company to construct & operate a railway from, on, or near the International Boundary at or near the head of Chilcoot Pass & the commencement of the Dalton Trail, thence along or near the Dalton Trail to or near Selkirk, & thence to a point in or near Dawson City, with the usual powers.

Dawson Belt Line.—D. G. Macdonell, Solicitor, Vancouver, gives notice of application to the Dominion Parliament for the incorporation of a company to construct & operate a railway from, at or near Dawson City, along Klondike River to the confluence of Hunker Creek, thence along Hunker Creek to Dominion Creek, thence to Indian River & along its course to its junction with the Yukon River thence along the Yukon River to Dawson City, with a branch up Bonanza & Eldorado Creeks to Dominion Creek.

Hardy Bay Tramway Co.—W. Jensen & L. Goodacre, Victoria, give notice of desire to form a Co. under this title, under the Tramway Incorporation Act (British Columbia), for the purpose of building & operating a tramway from a point on Hardy Bay, Rupert District, Vancouver Island, southwesterly to Coal Harbor, Quatsino Sound, & with power to build branch lines therewith, & to build telephone or telegraph lines in connection.

Kamloops Lake to Atlin Lake.—Bodwell & Duff, Solicitors, Victoria, give notice of application to the B.C. Legislature for the incorporation of a company to build a standard or narrow gauge railway from or near the outlet of Kamloops Lake to the plateau of the Bonaparte River; thence to the Cariboo wagon road near the One Hundred-Mile House; thence following generally the route of the Cariboo wagon road to the mouth of Quesselle River; thence north-westerly, following generally the route of the Telegraph trail to Hazelton, at the Forks of the Skeena River; & thence north & north-west to the vicinity of Atlin Lake; with power to build a branch to Teslin Lake.

Midway to Kettle River.—D. B. Vincent & I. Thompson, agents for applicants, give notice of application to the British Columbia Legislature for the incorporation of a company to construct & maintain a railway from, at or near Midway westerly, following the valley of the Kettle River to its junction with the West Fork of Kettle River; thence up the valley of the West Fork to or near the mouth of Beaver Creek, with power to construct branch lines.

Nipissing & James Bay Ry.—McMurrich, Coatsworth, Hodgins & Co., Solicitors, Toronto, give notice of application to the Dominion Parliament for an act to extend the time limited for the completion of the several portions of the road.

Northern Pacific.—A rumor is current in Winnipeg to the effect that the Northern Pacific will build a direct line from there to Duluth, bonus or no bonus, & that other important extensions on the Manitoba division

are in contemplation. The marvellous crop of this year, & the possibility of the export of wheat increasing to 50,000,000 or 60,000,000 bus. in the next 3 or 4 years, is the incentive to build to Duluth direct. The air line to Duluth would compete with the C.P.R. Winnipeg-Fort William route, as well as with the Manitoba & Southeastern, which is now being built from Winnipeg southeasterly to meet the Ontario & Rainy River Ry., now building westerly from its starting point on the Port Arthur, Duluth & Western, near Stanley, a short distance west of Fort William. The M. & S. E. is subsidized by the Province of Manitoba & was adopted instead of Premier Greenway's first proposal of an air line to Duluth.

Quesnelle Forks to Skeena River.—Wilson & Senkler, Solicitors, Vancouver, give notice of application to the B.C. Legislature for the incorporation of a company to build a railway from or near Quesnelle Forks, to or near Hazelton, near the junction of the Watsaukwa or Buckley & the Skeena rivers.

Spokane & Northern.—The Chicago Tribune says: "The Great Northern (U.S.) it is reported, intends to make application to the next session of the Canadian Parliament for a franchise to extend the Spokane Falls & Northern through Southern British Columbia. The franchise desired by the Great Northern is believed to be for a more ambitious enterprise than has yet been revealed. The real object is represented to be a paralleling of the C.P.R. Crow's Nest line through Southern B. C., in addition to the Kettle River road."

Stikine & Yukon.—Blake, Lash & Cassels, Solicitors, Toronto, give notice of application to the Dominion Parliament for the incorporation of a company, with the usual powers, to construct & operate a railway from on or near the Stikine River to Teslin Lake or thereabouts, thence to Dawson City or thereabouts; also from on or near the Stikine River southerly to a point in British Columbia capable of being made an ocean port; also from on or near the waters of Lynn Canal, by way of Fort Selkirk or thereabouts to Dawson City or thereabouts; also branch lines & lines of railway along or near any creek or water-course in the Yukon district; also telegraph & telephone lines from existing lines in B.C. to any points on the above lines of railway. It is said this application is in the interest of Mackenzie, Mann & Co.

Rutland-Canadian.—A bill has been passed by the Vermont Legislature, incorporating the Rutland-Canadian R. R. Co. with a capital of \$1,000,000, for the purpose of extending the Rutland Ry., which now runs from Bellow's Falls to Burlington, Vt., 120

miles. The extension will run from Burlington north to Rouse's Point, N.Y., either through Grand Isle County or by way of St. Albans & Swanton, & will connect with the Canada Atlantic. The incorporators are: W. C. Clement, H. G. Smith, F. R. Wells, F. W. Wilder, W. W. Stickney, George R. Bottom, J. W. Stewart, W. S. Webb & P. W. Clement.

Thunder Bay, Nipigon & St. Joseph.—Some Port Arthur citizens have decided to apply for a charter for a railway from there via Lakes Nipigon & Joseph to James Bay.

RAILWAY APPOINTMENTS, &c.

Canadian Pacific.—A recent telegram from Portage la Prairie, Man., stated that F. L. Newman had been appointed Superintendent of the Crow's Nest Pass Ry. Enquiry at the Manager's office at Winnipeg elicited the information that nothing was known there about the appointment. The line is about to be transferred to the operating department of the Western Division.

T. H. Underwood, formerly of the C.P.R. & latterly Chief Clerk in the general traffic office of the Government Ry. System in Montreal, has gone to England to act as Travelling Freight Agent for the C.P.R. He will be attached to the staff of European Traffic Agent Baker.

Grand Trunk.—Superintendent Fitzhugh, of the Middle Division, announced the following appointments as effective Nov. 1: H. E. Whittenberger, Trainmaster, 16th (Toronto to Hamilton), 17th, 18th, 19th 20th (Harrisburgh to Tilsonburg Jct.) districts, vice C. S. Cunningham, transferred; office at London, Ont. W. E. Costello, Trainmaster, 15th, 16th (Port Dover to Hamilton), 20th (Buffalo to Goderich) 21st districts; office at Stratford, Ont.

Mr. Cunningham has been transferred to a similar position at Island Pond, Vt. Mr. Whittenberger has recently been Trainmaster at Stratford, Ont. Mr. Costello comes from the Columbus, Hocking Valley & Toledo Ry., where he was Trainmaster of the Toledo Division.

General Roadmaster Cheer announces the appointment of T. H. Horner, formerly Foreman at Peterboro', as Roadmaster, Districts 11 & 12, North Parkdale, to South switch, Gravenhurst, & District 9, East switch, Atherly Jct., to Midland, including Medonte Branch, with office at Allendale, Ont., in place of C. Wyatt, transferred to Richmond, Que., as Roadmaster of District 2, in place of T. Stack resigned.

J. McGrath, Foreman of the erecting shops at Stratford, Ont., has been appointed Master Mechanic there in place of J. D. Barnett, resigned. Mr. Barnett was in the service for many years, having previously been in charge of the Midland shops at Port Hope. Mr. McGrath is succeeded as Erecting Shop Foreman by J. Markey, of the fitting department.

E. D. Jameson, heretofore Assistant Master Mechanic at Chicago, has been appointed Assistant Master Mechanic of the Western Division, with office at Battle Creek, Mich., being succeeded at Chicago by W. A. Bell.

J. A. Miller, heretofore Travelling Agent, has been appointed General Agent at Seattle, Wash.

J. L. Gogerty, of Portland, Me., has been appointed Yardmaster at Point St. Charles, Montreal, replacing A. Tarling, who has been transferred to Portland.

Intercolonial.—In our last issue, pg. 204, we published a circular issued by General Manager Pottinger, Oct. 14, announcing the appointment of J. E. Price, Superintendent at Truro, as General Superintendent at Moncton; the transfer of Superintendent Rennels from Campbelltown to Truro, & the appointment of G. M. Jarvis, Chief Despatcher at Moncton, as Superintendent at Campbelltown. This circular was cancelled by another bearing the same date & reading as follows: "J. E. Price has been appointed General Superintendent, with headquarters at Moncton, N.B. The superintendents of districts, the Superintendent of the Parlor, Sleeping & Dining Cars, & the Car Accountant will report to & receive their instructions from him. G. M. Jarvis has been appointed Superintendent of the Halifax & St. John District in the room of Mr. Price." It will thus be seen that Mr. Rennels has been left in his old position at Campbellton & that Mr. Jarvis has gone to Truro instead.

As foreshadowed in our last issue, Mr. Jarvis has been succeeded as Chief Despatcher by H. B. Fleming.

The Railroad Gazette, New York, announces that "J. J. Wallace, heretofore Superintendent of the Halifax & St. John District of the Intercolonial, has been appointed General Freight Agent." Mr. Wallace has been General Freight Agent of the Intercolonial since Nov., 1892; so he can hardly be described as "heretofore Superintendent of the Halifax & St. John District."

W. Williams, Secretary to Supt. Rennels at Campbellton, has been promoted to despatcher in the place of L. S. Brown, lately removed.

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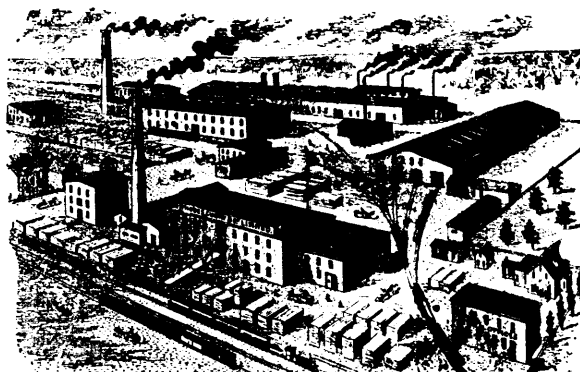
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W. H. Olive, formerly Eastern Freight & Passenger Agent at Montreal, who was retired in Jan. last by General Traffic Manager Harris, has been appointed Travelling Freight Agent for Montreal City & Quebec Province, reporting to the Division Freight Agent at Montreal.

Division Freight Agent Hardwell, of Montreal, visited Toronto recently in connection with the reorganization of the office there. W. Robinson, recently Division Freight Agent at St. John, N.B., is confirmed in his new position of General Travelling Agent for Ontario with headquarters at Toronto, & N. Weatherston becomes Travelling Freight & Passenger Agent with headquarters in the same office, 93 York St.

J. D. McNutt, who has been stationed in Moncton for the last 4 years as relieving despatcher between Moncton & Truro, has been promoted to despatcher in the New Glasgow office. I. L. Boomer, operator in the Moncton office, has been promoted to Mr. McNutt's place.

Great Northern (U.S.)—Darius Miller, Third Vice-President & Traffic Manager of the Missouri, Kansas & Texas, has been appointed Chief Traffic Executive, succeeding F. B. Clarke, General Traffic Manager, with headquarters at St. Paul, Minn.

Manitoba & Northwestern.—Hugh Spence, of the office of McCarthy, Osler & Co., Toronto, has been appointed Secretary, vice E. W. Riley, of Montreal.

Ottawa & New York.—New York & Ottawa.—G. H. Phillips has been appointed Travelling Freight & Passenger Agent of these companies, with headquarters at Ottawa, Ont., vice A. W. Flack, resigned.

Spokane Falls & Northern.—A. Jackson has been appointed Resident Engineer with headquarters at Spokane, Wash., succeeding E. J. Roberts, Chief Engineer, resigned.

W. Coyne has been appointed Chief Despatcher with headquarters at Spokane, Wash.

The following are the recently-elected & appointed officers of the Nelson & Fort Sheppard & the Red Mountain Ry's, the subsidiary lines in British Columbia:—W. H. Thompson, President; C. Shields, Vice-President; F. W. Bobbett, Sec'y & Treas.; A. M. Thomas, Auditor; C. G. Dickson, G. F. & P. A.; A. Jackson, Resident Engineer; C. H. Prescott, Master Mechanic. Mr. Thompson has his office at Seattle. All the others are at Spokane.

West Shore.—J. J. McCarthy, Travelling Passenger Agent at Toronto, has been appointed General Western Passenger Agent at Chicago, vice W. Caldwell resigned. Mr. McCarthy is succeeded at Toronto by L. Drago, Travelling Passenger Agent at Suspension Bridge, N.Y., who in turn is succeeded by Mr. McDonald, of Buffalo.

Personal Mention.

Jas. Ross, Vice-President Montreal Street Ry., has arrived in Montreal from England.

C. R. Hosmer, Manager C.P.R. Telegraphs, has gone to England, accompanied by Mrs. & Miss Hosmer.

Hugh Ryan, the well-known contractor, is very ill at his home in Toronto, with acute Bright's disease.

A. Lovell has been appointed Assistant Superintendent of Motive Power for the Northern Pacific. Office, St. Paul, Minn.

It is said E. C. Harris, formerly despatcher on the Intercolonial, & latterly Superintendent of the Fremont, Elkhorn & Missouri Valley Ry. at Chadron, Neb., has received an appointment on the Union Pacific.

R. Miller, Superintendent of Motive Power of the M.C.R. Ry., met with an accident at his home in Detroit recently, whereby he was badly but not dangerously burned by an explosion of gas in a furnace.

W. Mackenzie, accompanied by 3 of his daughters, left Toronto in Oct. for England. The Misses Mackenzie go to continue their studies on the Continent; Mr. Mackenzie expects to return to Canada early in December.

J. M. Egan, at one time General Superintendent of the C.P.R. Western Division at Winnipeg, was re-elected Vice-President of the Central Ry. of Georgia at the recent annual meeting. His headquarters are at Savannah.

Mrs. Matthews, wife of W. D. Matthews, of the C.P.R. directorate, has returned to Toronto from abroad, having spent the summer travelling with her daughter, Ethel, on the Continent, & left her in Paris to continue her studies.

Sir Wm. Van Horne, R. B. Angus & W. Mackenzie are among the directors of the Grand Falls (N.B.) Water Power & Boom Co., the capital stock of which, \$1,000,000, is said to have been subscribed.

Collingwood Schrieber, Deputy Minister of Railways, was married at Ottawa, Nov. 14, to Julia Maud, daughter of Judge Gwynne, of the Supreme Court. After the ceremony Mr. & Mrs. Schrieber left in the official car Montreal for New York.

The Duke & Duchess of York are about to visit Lord & Lady Mount-Stephen at Bracket Hall, Hatfield, Eng. The Duchess' friendship with Lady Mount-Stephen dates from the days when the latter was Lady-in-Waiting to the Duchess of Teck.

T. R. Hewson, Civil Engineer, of Tyrrell & Hewson, died suddenly at Sudbury recently. He was born in Cobourg about 41 years ago. He was Engineer of the Hamilton Radial Ry. Recently he had been at Sudbury superintending the laying out of township land for the Government.

Lord Strathcona & Mount Royal was recently asked about the statement published in Canada that he was about to resign the High Commissionership, & he succeeded by Sir Richard Cartwright. He said that, of course, he knew nothing of Sir Richard Cartwright's movements. He himself was quite innocent of knowledge of any intention such as alleged.

It is rumored that F. D. Underwood, General Manager of the Minneapolis, St. Paul & Sault Ste. Marie, has been appointed General Manager of the Baltimore & Ohio, to succeed W. M. Green, elected Vice-President of the B. & O. Southwestern, & that W. F. Fitch, General Manager of the Duluth, South Shore & Atlantic will succeed Mr. Underwood on the M., St. P. & Ste. S. Marie.

Mrs. Rolph, wife of E. R. Rolph, Architect on the Crow's Nest Pass Ry., died at Macleod, Alta., Oct. 23, of peritonitis. She was a daughter of S. W. McMichael, Chief Inspector of Customs, Toronto, & had only been married a few months. The body was taken to Toronto, & was accompanied by Mr. Rolph, who was so ill with typhoid that he had to be carried off the train on reaching Toronto. He is progressing very favorably.

Gamble Armstrong, the eldest son of H. W. D. Armstrong, C. E., of the Crow's Nest Pass Ry. Engineering Staff, died at Macleod, Alta., Oct. 20, of typhoid. He had been engaged for over a year past in the engineering department of the Crow's Nest Ry., & for the last six months was with his father at Fernie, B. C. The latter, who was laid up in Toronto in September, while on leave, also with typhoid, returned west the second week in October, & on arriving at Macleod, October 17, found that his son had been taken there ill a few days before. The end came three days later. The body was taken to Toronto & interred in St. James Cemetery.

H. A. Price, heretofore District Passenger Agent of the I.C.R., at Halifax, recently transferred to a similar position in Montreal, entered the service of the G.T.R. in the audit office in 1873 & went into the Managing Director's office the following year. He accompanied the late C. J. Brydges as Private Secretary when he was appointed General Superintendent of Government Railways in 1875, & when the former retired in 1879 became Private Secretary to D. Pottinger, the present General Manager, with whom he remained until 1892. Then he was appointed chief clerk in the General Passenger Agent's office at Moncton, N.B., where he remained until last Jan., when he was appointed District Passenger Agent at Halifax.

E. H. Keating, Manager of the Toronto Railway Co., has been sadly bereaved lately. Late in Oct. he received a cablegram from the British War Office, stating that his son Lieut. Keating, of the Leinster Regiment, had been killed in a canoe on the Niger by natives. He had set out in command of a party of native soldiers from Lokaja, & having passed Jebba, was advancing towards the farthest outposts of the British in the Niger region. A mutiny had occurred at Fort Goldie among the native troops, & it is possible that his death may have been caused by some of the mutinous natives. About the same time Mr. Keating was advised of the death in California of his father, Wm. Keating, who was a lawyer, having been admitted to the Nova Scotia bar in 1829. For some years he was registrar of deeds for Halifax County. In 1891 he removed to California from Halifax, with his family.

Jas. Tillinghast died at his home in Buffalo, N. Y., Oct. 25, aged 76. He was born in Cooperstown, N.Y., & entered railway service as fireman on the Utica & Schenectady R.R., now a part of the New York Central. In a few years he became Master Mechanic & Assistant Superintendent of the Rome, Watertown & Ogdensburg. In April, 1856, he was appointed Superintendent of Motive Power & Assistant General Superintendent of the Northern Ry. from Toronto to Collingwood, Ont., now a part of the G.T. system. He remained in this position for 8 years, & then became connected with the Buffalo & Erie Ry. as Assistant General Superintendent. From 1865 until 1869 he held the position of Superintendent, Western Division of the New York Central, becoming General Superintendent in 1869. He held this position for 12 years, when he resigned to become Vice-President of the New York Central Sleeping Car Co.—Railroad Gazette.

Canada Southern.—Kingsmill, Saunders & Torrance, Solicitors, Toronto, give notice of application to the Dominion Parliament for an act to extend the times limited for the commencement & completion of the unconstructed lines or branches of the Canada Southern Ry. Co.

Sarnia-Port Huron Ferry.—The Lake Erie & Detroit River Ry. has purchased the car ferry International from the G. T. R., & will run her between Sarnia & Port Huron, connecting that Port Huron with the Flint & Pere Marquette Ry. On the Canadian side of the river the ferry will connect with the Erie & Huron Ry. lately purchased by the L. E. & D. R., & through it with the Michigan Central at Courtright, & with the C. P. R. & Wabash at Chatham.

Following is a literal copy of a report made by a track foreman on a Chicago road recently: "Mike was Carrying A plank himself & 5 More men & he was going backward with the plank & he fell in his seat in the Nail & went threw him at 10.30. ———, Foreman."

From a Superintendent's Standpoint.

To the Editor of the *Railway & Shipping World*:

I have just read in your Oct. issue a report of the proceedings of the Canadian Roadmasters' Association, & am particularly struck with the concluding speech of the President, in which he laments that the roadmaster has no official in the railway service from whom he can obtain intelligent direction in the practical work pertaining to the maintenance of way. The superintendent, general superintendent, or manager, it is alleged, are promoted from the ranks of the transportation department, & according to the President of the Roadmasters' Association, never know anything about maintenance of way. The civil engineer is grudgingly admitted to have received a theoretical training in this branch of the mysteries of track maintenance.

I am surprised at the worthy President of the R.M.A. displaying such egotism, & would suggest that he look up the history of railway building & maintenance, past & present. I have had 20 years railway experience, the last 10 of which has been as superintendent of about 500 miles on a Canadian railway. There are 3 roadmasters on my division, & they have never lacked the necessary direction—they have not had to ask for it—it has been given freely & ungrudgingly, & when this direction compelled the changing of old practices, with a view to more economical working, & up-to-date methods, it had almost to be driven into their heads with a maul.

It is not necessary for a man to have worked with a pick & shovel to understand the maintenance of track in all its details. The most progressive railways, with the best track, over which the heaviest & fastest traffic is handled, place the maintenance of the track under the direction of civil engineers, & the trend of present day practice is to make roadmasters from civil engineers.

I cannot recall one improvement in rails, fastenings or maintenance methods which has originated with a Canadian roadmaster, while, on the other hand, I can point out innumerable improvements originated & put in practice by general superintendents, engineers, superintendents, & other officials,—improvements which were considered as impractical, and fought tooth & nail by the roadmasters at the time of their introduction.

If the President of the R.M.A. thought that roadmasters were the only "pebbles on the embankment," it would have been more becoming to have left it to some other official to have given voice to the sentiment.

A SUPERINTENDENT.

Canadian Roadmasters' Association.

In the report of the Ottawa meeting in our last issue, there were some errors in Mr. Leslie's remarks on the elevation of curves, on pg. 210, col. 2. The correct report of what he said is as follows:—

MR. LESLIE.—I find that for 60 miles an hour an inch to a degree is as near as we can come at it. We have curves between Eganville & Madawaska of 5 degrees, & between Eganville and Ottawa the sharpest curves are 3 degrees. I elevated them 1 in. to a degree for 60 miles an hour & found it sufficient. The inner rail is now showing slight signs of cant-ins on heavy grades. I elevated $\frac{3}{4}$ of an inch to a degree for 45 miles an hour & found it too much for heavy freights crawling up grade at a slow rate. I think this question is a pretty hard one to decide on, & it depends, of course, on the circumstances what elevation must be given. Passenger trains running at 60 miles an hour & freights crawling along at 15 to 20 miles require different treatment, & it is hard to provide for both. We feel like giving more elevation when trains are running fast.

In the discussion on rail joints, pg. 211, col. 1, the following correction is necessary:—

MR. R. SHANKS.—From what experience I have had I do not favor the suspended joint, but at the same time I cannot altogether approve of the 44-inch bar. I find that in quite a number of cases we have to slacken up bolts, where the shoulder is light, in order to let the expansion close up, and prevent track springing out of place. Like Mr. Jelly, I have had a good deal of trouble with the rail giving back from the end of the bar about $2\frac{1}{2}$ ft.

The Ottawa & New York Ry.

At Albany, N.Y., Nov. 2, Supreme Court Justice Chester rendered a decision which, if it is sustained by the higher courts, will prevent the connection of the New York & Ottawa Ry. at Long Lake with the Adirondack Ry. at North Creek, & thereby frustrate the plan for shortening the riding distance from New York City to Ottawa by 59 miles. The State sought by the action to enjoin the Adirondack Ry. from taking or continuing condemnation proceedings to procure a right of way for a railway across Township 15, which lies in the counties of Warren, Essex & Hamilton, & which is wholly within the Adirondack Park, & is part of a forest preserve. Justice Chester holds that as the lands are a part of the forest preserve they cannot be leased, sold or exchanged, or be taken by any corporation, public or private. Some time ago the New York & Ottawa Ry. was given permission to build a road from the St. Lawrence River, 14 miles into St. Lawrence County to Moira. The N. Y. & O. then obtained control of the Northern New York, the Racquette River & Long Lake Rys., extending its line down to Long Lake, Hamilton County, which is about 30 miles from the northern terminus of the Adirondack Ry., which is controlled by the Delaware & Hudson at North Creek. The effect of Justice Chester's decision, if it is upheld, will prevent the construction of the connecting link from Long Lake to North Creek in the proposed short Canadian line.

The G. P. Magann Co., Ltd., has been incorporated under the Ontario Companies' Act, with a capital of \$350,000, & headquarters at Toronto. The incorporators are G. P. & Mrs. Magann, & Mrs. & A. Fraser, the provisional directors being Mr. & Mrs. Magann & A. Fraser.

The Story of the Railroad.

By Cy Warman, author of the Express Messenger, etc. A new volume in the Story of the West Series, edited by Ripley Hitchcock. With maps & many illustrations by B. West Clinedinst & from photographs. Uniform with The Story of the Cowboy, The Story of the Mine, & The Story of the Indian. 12mo., Cloth, \$1.50. D. Appleton & Co., New York.

This book, which follows The Story of the Cowboy, in this series, pictures the building of the earlier transcontinental lines across the true west of the United States. It tells the story of the engineer who found the way & who was the pioneer of permanent civilization among the Indians & buffalo of the plains & in the mountains. Historically, the book is valuable because it gives a comprehensive sketch of a great subject in a brief compass, & furthermore, the strange & picturesque phases of life which are depicted are full of immediate interest. An actual war, now forgotten, for the possession of a canyon in Colorado, is vividly described by the author, who has shared in the work of the railway men, & who made a special journey through the West to gather fresh material for this valuable & entertaining book. An interesting & accurate chapter is devoted to the C.P.R.

Back Numbers Wanted.

In our Sep. & Oct. issues we stated that we were anxious to obtain a few copies of the May & June issues of THE RAILWAY & SHIPPING WORLD, the supply of which had been exhausted, & through an oversight an insufficient number of copies had been retained for our files. We have to thank several readers who have sent in copies of these issues. We still want to get a few more of each, & anyone who has copies & does not wish to retain them for binding, will greatly oblige us by mailing them to us.

We also want to obtain a few copies of the July issue, & shall be very much indebted for these also.

The Western Canada Telephone Co., composed of British stockholders, has been incorporated, with a capital of £60,000, to acquire & construct telephone lines & deal in machinery relative thereto in British Columbia. Among the promoters are J. H. Wade, Bradford, & R. I. Cratchley, Dewsbury, Eng.

Established 1831.

Annual Capacity 1,000.

Baldwin Locomotive Works.

SINGLE EXPANSION AND COMPOUND LOCOMOTIVES.

Broad and Narrow Gauge Locomotives; Mine and Furnace Locomotives; Compressed Air Locomotives; Steam Cars and Tramway Locomotives; Plantation Locomotives; Oil Burning Locomotives.

Adapted to every variety of service, and built accurately to gauges and templates after standard designs or to railroad companies' drawings. Like parts of different engines of same class perfectly interchangeable.

Electric Locomotives and Electric Car Trucks with Approved Motors.

Burnham, Williams & Co., Philadelphia, Pa., U.S.A.

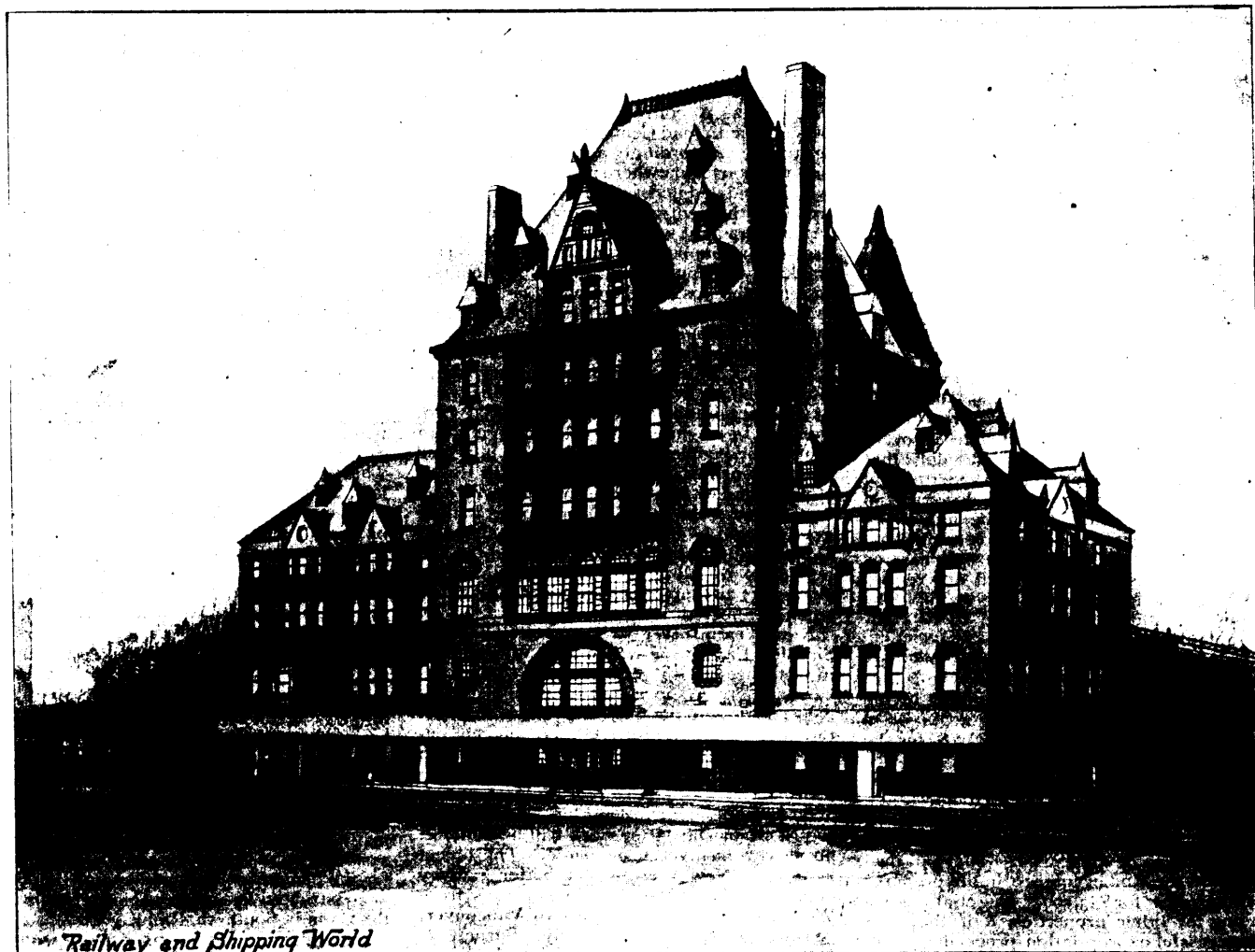
C.P.R. Stations and Hotels.

The illustration on this page shows the track & harbor elevation of the passenger station & office building now being erected by the C.P.R. Co. at its Pacific Coast terminal, Vancouver. The dimensions of the building are 191 ft. on Granville St. by a depth over all of 70' 5", the building being 8 stories in height above the track levels, which are some 29 ft. below the grade of Granville St. The building is in the French chateau style of architecture, in keeping with the other buildings that the Co. has recently erected in Montreal, Quebec & other places, & consists of a central pavilion 80' x 70' carried up 8 stories & covered with a steep pitched roof flanked on each side by 2 towers, while the wings on each side are carried up 4 stories in height, finished with hipped roofs.

is the general waiting-room 48'x78' in size, & 16' high, with windows opening on to Granville St., & a long series of windows overlooking the harbor. In the centre of the room is situated the ticket office, while on each side of the entrance are to be found the telegraph & parcels office, & the news stand. West of this room is the women's waiting-room, 32'x31' in size, with a secondary waiting-room & toilet rooms attached to it. A generous fire-place has been provided here, built of fire-brick & marble, with the upper panel filled by a painting. Alongside of this women's room is an opening off the general waiting-room, & from Granville St. is the express office with a large security vault in connection with it. The approach to the upper floor is also in this wing, & a lavatory for the use of the Co.'s officers. On the western side of the general waiting-room is the General Superintendent's office &

fuel & other conveniences. Between the basement & the ground floor is an entresol or intermediate story where the Steamship Department is located, 44'x24' in size, with private offices for the officers in charge. Accommodation is also provided on this floor for the Superintendent & his Assistant, & for the train despatchers, who have a large office provided with bay window overlooking the tracks in the east direction.

On the 1st floor the whole of the center pavilion is given up to the Traffic Department 58'x47' in size with 2 large private offices, The Land Commissioner is also accommodated here with a large public office and 4 private offices and a lavatory. Each of these departments has a fire-proof vault 15'x18' in size. The General Superintendent's Accountant & Car Accountant are accommodated in the eastern wing with four private offices & a lavatory in connection.



TRACK AND HARBOR ELEVATION, C. P. R. STATION AND OFFICES, VANCOUVER, B.C.

The material of construction up to the first floor level is of Calgary stone with rock face surface, with moulded cornices, arches, & other decorative members richly carved. The superstructure is a specially made brick from Victoria 5" x 10" x 2" in size, of a mottled buff color, & very hard in texture, being impervious to water, & therefore particularly suitable for a building in a climate such as is experienced in Vancouver. The roof will be covered with slates that are quarried in B.C., while the covering of the dormers & all other metal work in connection with the roof will be of copper.

One enters the ground floor at the level of Granville St. under a low-browed arch 42 ft. span, & 14 ft. high, through a covered porch 16 ft. deep by the width of this arch. Off this

private office overlooking the harbor, while across the corridor is the Treasurer's general office & private office with a large security vault attached to it, an office for the Purchasing Agent, & lavatories for the use of the public & of the Co.'s officers. The main staircase & elevator are situated at this end of the building to give access to the upper stories. One descends to the track level by 2 generous stair-cases 8 ft. wide, which end in a hall on the basement floor 19'x79' in size. An elevator is also provided to take passengers from this hall to the general waiting-room. The remainder of this basement floor is devoted to the baggage-room 45'x32' in size, express-room, a room for the conductors, for the steamship mail service, for the heating plant,

At the 2nd floor level the wings are unfinished, provision, however, being made for further extensions. The whole of the central pavilion being occupied by the engineering staff, with a general office 48'x58' in size, & extensive private offices, large storage vault 19'x15'. The 3rd floor is laid out similarly to the 2nd floor in every respect, & is devoted to the telegraph and cable staffs. The 4th & 5th floors are unassigned, and are reserved for future accommodation and extension. These four upper floors are particularly desirable for the purpose intended, ample light & ventilation being obtained from 4 sides, while the large fireproof storage vaults & lavatories on each floor provide better accommodation than is usually given.

STATION AND HOTEL AT MOOSE JAW.

The Co. is building a combined station & hotel at Moose Jaw, Assa, which is an important point owing to connection being made there between the main line & the Minneapolis, St. Paul & Sault Ste. Marie trains. The building is 200' in length by 34' deep, consisting of 3 stories & a basement, & is constructed of Calgary stone up to the ground floor sill level, & native brick with stone trimmings above this point. There is a covered passage way at the center of the building 16 ft. wide leading from the track side to the street. Off this is the entrance to the general waiting-room 25'x30' on one side, while on the other side is the hotel office and dining-room 30'x41', serving pantry, kitchen, store-rooms, scullery, & lunch-room 17'x30' at the extreme end of the building. Next to the general waiting-room is the ticket office, then ladies' waiting room 23'x21' with a retiring-room & lavatories. Then come the baggage room & express room, & a hallway with a staircase leading to the 1st floor.

On the 1st floor at the extreme western end is the train dispatchers' room, with a bay window overlooking the track in each direction, a conductors' room, Superintendent's office, clerks' office, bridge inspector's office, & lavatory. The remaining part of this floor & the floor above are given up to the hotel part, & consist of a large drawing-room & smoking room, & about 30 bed-rooms with bath & toilet rooms.

The exterior of the building presents a very imposing appearance with its high sloping slate roof & large central pavilion treated in the style of Francois 1st, flanked by turrets supported from the buttresses below. At each end are pavilions with elaborate cut stone & carved trimmings, & no expense has been spared on both this & the Vancouver station to make them perfect & complete in every respect, & quite up to the high standard that the C.P.R. has adopted for its permanent buildings. All the rooms will be decorated in a quiet & rich manner, & will be lighted by electricity & thoroughly heated & ventilated. The intention is to make these buildings as nearly perfect as possible without any regard to the expense in connection therewith. The Moose Jaw station is expected to be completed in December.

The architect for both the above buildings is Edward Maxwell, of Montreal, who is also architect of the station now being built by the Co. at Galt, Ont., as well as for the station to be built at New Westminster, B.C., & for the addition to the hotel Vancouver.

The Dominion Government has given the Co. power to expropriate the land necessary for the extension of Windsor St. Station, Montreal, which has been contemplated by the Co. for some time past. The Co. has purchased the Rodier interest in the property on Osborne St. for \$33,500. Negotiations are pending for other properties, & if they are not successful expropriation proceedings will have to be taken.

The Co. is about to build a station on the corner of Washington St. & Second Avenue, Rossland, B.C., to replace the present one on St. Paul St. There will be a commodious waiting-room & a large baggage-room flanking the agent's office. Attached to the station will be a freight warehouse about 40x100 feet.

Servis Tie Plates.—The C. P. R. Co. has recently placed some very large orders for Servis tie plates with F. E. Came, of Montreal, who has also received good orders lately for the Intercolonial, which has used the plates for years, being one of the first lines to generally use them. A committee of the U.S. Roads Masters' Association made a very favorable report on these plates this year, confirming the experience of the Intercolonial for the past 10 years.

C.P.R. Betterments, &c.

Brockville.—It was recently reported that the tunnel built for the Brockville & Ottawa Ry. at Brockville, Ont., would be closed up & other improvements made by the Co. at a cost of \$50,000. We have received an official denial of the report.

Columbia & Western.—In widening the gauge of this line between Trail & Rossland there will be some slight changes of location. The standard gauge track will follow along the Enterprise, the Virginia & the Idaho mines ground as much as at present, but instead of curving north of the Iron Mask, as at present, there will be a switchback at that point, whereby the line will be carried up to the War Eagle workings, below the mouth of the main tunnel. A gravity tram, such as is used at the Le Roi, will be used to convey the ore from the War Eagle's new hoist on the top of the hill to the cars on the Columbia & Western tracks. The new workings of the Centre Star will be reached in a different manner. The Centre Star's new hoist will be located beneath the railway line leading to the War Eagle, & as a consequence it would be impracticable to load Centre Star ore on the latter track. Accordingly a spur from the main line will start somewhere near the Virginia & will be carried across the gulch on a high trestle to the Centre Star's new gallows frame. In this manner it will be possible to reach that property at the best advantage. Later on the track may be continued around Red Mountain to reach the Josie & the No. 1.

Mountain Divisions.—Revelstoke is being made the divisional point of the main line in the mountains between Laggan & Kamloops, & the work of erecting the necessary shops & round-house is well under way. The work at Calgary is also making substantial progress. In an interview with Sir Wm. Van Horne the people of Donald were informed that all those who desired to move to Revelstoke & had lots in Donald would receive an equal area at the new divisional point & their goods would be moved free. The shops at Donald will be shut down shortly, but the Co. intends to do all in its power to make the change as advantageous as possible to those who are affected.

New Westminster to Vancouver.—When Sir Wm. Van Horne was in New Westminster in Oct., he stated that the fire which had occurred there a short time previously, & its consequences to the Co., had brought about the building of a better station & the continuation of the line from New Westminster to Vancouver to be used as part of the main transcontinental line one year, at least, nearer accomplishment. Nothing has been said as to just when this latter work will be done, & no survey has yet been made. The object is to give New Westminster better railway facilities. The present main line runs from Westminster Jct., 16.8 miles to Vancouver, passing through Port Moody, Barnett & Hastings. From Westminster Jct. the West-

minster branch runs to New Westminster, 8.2 miles. It is the intention, some time or other, to extend the Westminster branch from New Westminster to Vancouver direct, so that the main line will run from Westminster Jct. via New Westminster to Vancouver, instead of via Port Moody. This will lengthen the distance between Westminster Jct. & Vancouver slightly, but a considerable saving will be effected in the operation of the Westminster branch. Trains from Vancouver to New Westminster now have to travel 25 miles in consequence of going round by Westminster Jct., while the distance by the B.C. Electric Ry. line is only 12 miles.

Penticton to the Coast.—On his recent visit to B.C., Sir Wm. Van Horne stated that nothing would be done regarding the building of a line to connect Penticton direct with the Pacific Coast until the line between Boundary Creek & Penticton was completed.

Pipestone Branch.—Track is being laid on the 25 miles extension from Reston, Man., which, it is expected, will be completed this season. (Aug. pg. 153.)

Port Arthur Elevator.—The Co. is improving its facilities by adding an extension drying plant. Work has commenced upon the foundation for the boilers. When the drying machinery is put in the Co. will have the most complete cleaning & drying house in America.

Stonewall Branch.—Track-laying is about completed on the extension from Stonewall, Man., about 18 miles to Foxton. (Aug. pg. 153. Sep. pg. 183.)

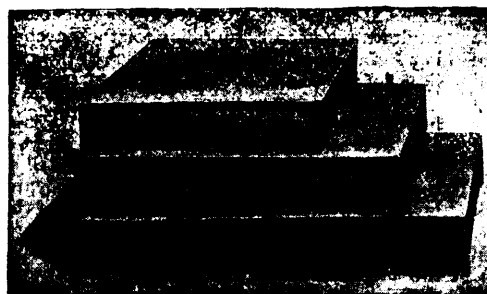
Vancouver Terminals.—The ratepayers of Vancouver having voted affirmatively on a by-law to exempt the Co's yards & works from taxation for 20 years, it is expected work on the proposed improvement will be started next spring. This will include the esplanading of the water front between Carroll St. & the west end of the Co's present wharves. The result of the vote on the by-law, an actual majority of 207 & a three-fifths majority of 21, showed a remarkable change in sentiment. Five years ago a bitter feeling existed among a numerous class against the Co. which Vancouver owed its very existence to, & for 3 or 4 years this feeling seemed to grow rather than diminish. Now all is changed. The letter writers who of old filled the local newspapers with tirades against the railway, have dropped out, & the labor people, now & always consistently opposed to any privileges being granted to the Co., represented about the only opposition against the by-law.

CANADA SOUTHERN RAILWAY CO.

Notice is hereby given that application will be made to the Parliament of Canada, at its next session, for an Act to extend the times limited for the commencement and completion of the unconstructed lines or branches of railway of the Canada Southern Railway Co.

KINGSMILL, SAUNDERS & TORRANCE,
Solicitors for the Applicants.

SUCCESSFUL UNITED STATES RAILWAY DEVICES MADE IN CANADA AND SOLD AT U. S. PRICES.



Why not increase your Dividends?

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See American Roadmasters' Convention reports of proceedings, or send for particulars.

SERVIS TIE PLATES
now made in Canada.

F. E. CAME, - Montreal.

Office—17 Place d'Armes Hill.

Robson to Boundary Creek.

The 105 miles of work between Robson & Midway, now under construction on the Robson-Penticton branch of the Columbia & Western Railway, is the most difficult & heaviest work ever undertaken in Canada for the same distance, & will cost \$4,000,000, or nearly \$40,000 per mile. Naturally the greatest expense is in the removal of rock, of which hundreds of thousands of tons must be displaced before steel can be laid. The item on tunnels alone is one of the largest of all, there being no less than 7 bores of considerable length along the line.

W. F. Tye, Chief Engineer of the road, has given some interesting details about the tunnel work on this contract on which over 3,000 men are now at work. There are approximately 5,300 ft. of tunnels to be bored, requiring the removing of at least 66,000 cubic yards of hard rock, or nearly 200,000 tons. This, of course, does not account for the additional immense quantity of rock required to be displaced in the open cuts & mountain sides. Between Brooklyn & Robson alone it is estimated that 1,750,000 cubic yards of rock all told must be blasted away. Of the tunnels, the first is 200 ft. long, at Hanson's camp, between Robson & Brooklyn, the second is at Shields' Landing, 8 miles below Brooklyn, & is 300 ft. long. Then comes the 335 ft. tunnel of Burns & Jordan, 4 miles below Brooklyn. The next is over 300 feet long, 4 miles west of Brooklyn, & will require a year to complete, & in the meantime the mountain will be crossed by a series of temporary switchbacks. The 5th tunnel is 36 miles from Robson & is the 2nd longest bore on the line, being 700 ft. in length. From this work to a point 8 miles beyond Grand Forks, towards Greenwood, there are no more tunnels. Not far from Greenwood, where the work is again heavy, there are 2 tunnels, each being between 300 & 400 ft. in length. From Greenwood to Midway there are no tunnels. Each of the tunnels will be 16 ft. wide & 21 ft. high. On all save one hand drilling is the rule. That is the long bore where 14-drill air compressors will be used.

After visiting the work recently Sir Wm. Van Horne said he considered it the hardest bit of railroad construction the C.P.R. has yet encountered. It was much harder than had been anticipated. It was almost like going over the tops of the mountains.

The townsites will be Gladstone, Cascade, Grand Forks & Greenwood, & the Co. has become interested in the development of them. Grand Forks is located at the point where the north Fork of the Kettle River runs into the main stream. Gladstone will be the distributing point for the Burnt Basin mining district & Christina Lake. Cascade is on the international boundary line at the foot of Christina Lake & takes its name from the numerous cascades which are found there, & which can be readily utilized for the generation of immense supplies of power. Greenwood will be the principal mining point in the Boundary Creek country & it is surrounded on every side by developed mines. To the east of it are the Brooklyn, Winnipeg, Crown Jewel, Snowshoe & Stewindler mines, all developed & owned principally by Manitobans. On the north is the B.C. mine, which has a large quantity of ore dumped ready for shipping. On the west side of the valley & overlooking the town is the well-known Copper Camp, the principal mines on it being the Mother Lode & the King Solomon Mine. The former is owned & developed by a New York syndicate, while the latter is the property of D. C. Corbin, of Spokane, the railway man. Nearly all these mines have ore ready for shipment, & are only awaiting the completion of the railway to start shipping to the Co.'s large smelters at Trail. This smelter will reduce all ore

until the development of the country is sufficiently advanced to require local smelters.

Grand Trunk Betterments.

International Bridge.—The situation is practically the same as when we last referred to this matter. The legislation obtained last spring & the action taken at a recent meeting in London, Eng., were but preliminary steps to put the Co. in position should the management, in the near future, see its way clear to go ahead & undertake the actual reconstruction of the bridge.

Montreal Offices.—The Montreal City Council has approved of the plans submitted. Architect Waite writes of them: "The elevations are treated Neo-Greco, that is a modern adaptation of Greek & Roman architecture, not a servile copy, but from the spring whence marvellously simple & logical inspirations of the art of the Greek are obtained, for architecture is required to modify its forms in accordance with the conditions of life, of temperature, & plan of required arrangement. The sculptural parts are concentrated upon features supported by dignified & quiet masses of walls; & while Greek will have the French phase. The plans are naturally adapted with reference to the absolute needs of the Co., entrances, gallery, corridors & apartments, & minor arrangements, are placed with reference to the convenience of the public & Co., yet keeping in view a pleasing impression as to its beauty. The principal facades, now under consideration, are, granite, red or grey sandstone, a grey-bluish limestone, & also a combination of these materials. The construction will be of a most permanent character, working in materials of the highest grades, with all steel & iron parts protected so as to be fire-resisting, & the vital structural parts absolutely concealed in solid masonry. As to cost, this naturally depends upon the materials chosen for the facades. However, the sum named, \$250,000, in the contract between the City & the Co. will be largely exceeded."

It is the intention of the Co. to put in the foundation this fall, & to commence work on the building proper next spring. It is hoped it will be finished by 1900. The stone work, plastering, etc., will be given out separately instead of allowing one contractor to sublet his contracts.

Sarnia & Port Huron Round Houses.—The Co. has recently let contracts for the construction of round houses at Sarnia & Port Huron,—the buildings being very much alike. Each structure will be segmental in form, built of brick, on stone foundations, with cast iron column supports. There will be 30 pit stalls, & 2 entrance tracks. The front, or inside of the building, will be formed with cast iron columns, set on stone foundations. There will be a building for a boiler-room & office, also built of brick with stone foundations, close to the round house. A new G.T. standard 70 ft. turn-table will be provided, & the radius of the building from the centre of the table to the outside face of the outside pilasters, will be 160 ft. 3 ins., the depth of the covered portion being 76 ft. 3 ins. Provision is made to light & ventilate the building in the most modern & improved manner, & all the buildings will be furnished with the latest improvements in the way of water supply, drainage, lighting, steam heating, etc. Adjoining each round house there will be a repair shop & boiler-house, which are also to be of brick. The total expenditure, including round house, turn-table, etc., will amount in the neighborhood of from \$60,000 to \$65,000 for each place. The contractor for the Sarnia buildings is G. A. Proctor of Sarnia, & for the Port Huron buildings, G. S. Germain, of Port Huron. The work at both places is expected to be completed by the end of February.

The Cariboo Railway.

In 1890 the British Columbia Legislature incorporated the Ashcroft & Cariboo Ry. Co., with the late D. Oppenheimer, of Vancouver, H. Abbott, & J. M. Browning as provisional directors. Messrs. Abbott & Browning then occupied the respective positions of General Superintendent & Land Commissioner for B.C. for the C.P.R., & it was understood the charter was obtained in the interest of that Co. The Act empowered the Co. to build a railway of not less than 3 ft. gauge from a point on the C.P.R. main line near Ashcroft, B.C., northerly to or near Barkerville, in the Cariboo district, & gave them the usual general powers, as well as a land grant of 20,000 acres a mile for a standard gauge line, or 10,000 acres a mile for a narrow one. In 1894 an amending Act changed the name to "The Cariboo Ry. Co." & provided that the line might start from the C.P.R. at any point between Ashcroft & Kamloops. A further Act in 1897 provided that the starting point on the C.P.R. & the whole route should be approximately defined by the Co., subject to the Provincial Government's approval, by May 8, 1899, by which date work should be commenced, the line to be completed by May 8, 1903.

The charter has recently been sold to the Cariboo-Omenica Chartered Co., which was incorporated at the last session of the B.C. Legislature, & which was very fully referred to in our June issue, pg. 105. This Co. is composed of English shareholders, the Secretary being C. J. Gardiner, 27 Clements Lane, Lombard St., London. The representative in Canada is R. G. Tatlow, of Vancouver. It is said the prospects for the early construction of the line are good. It would afford railway communication with the Cariboo mining district, which produced enormous quantities of gold in the '60's, & where extensive hydraulic mining is now being carried on. The distance from the C.P.R. at Ashcroft to Barkerville is 280 miles. There is an excellent wagon road built by the B.C. Government between the two points.

There is another charter in existence for a line over the same route, that of the Barkerville, Ashcroft & Kamloops Ry. Co., granted by the B.C. Legislature in 1897, the promoters being A. J. Garesche & H. F. Bullen, of Victoria, & F. G. Ward, of Spokane, Wash.

Surveys, Construction & Betterment.

Atlantic & Lake Superior.—Good progress is being made on the extension from New Carlisle to Pasbebiac, & work will soon be started on the bridge over the Bonaventure River. As announced in our Sep. issue, pg. 178, deep-water terminal facilities are being constructed at Pasbebiac, including a pier which extends 1,600 ft. from the bar into deep water, giving 36 ft. of water at low tide, so as to accommodate the largest vessels afloat.

Brookville, Westport & Sault Ste. Marie.—E. R. Dick, President of the Investment Co., of Philadelphia, recently made an inspection of this line, which is owned by his Co. He says it has been put in good condition & with the renewal of certain bridges now in progress will give a good account of itself to its owners.

Carp, Almonte & Lanark.—Interest has been revived in this proposed line, which is projected to run from Carp, on the Ottawa, Arnprior & Parry Sound Ry., through Lanark County, to connect with the C.P.R. at Almonte, Ont. It is claimed by the promoters that aside from opening up one of the finest sections of new country in Ontario it would also furnish the shortest & quickest route between Toronto & Ottawa. Among the promoters are A. Bell, C.E., Dr. Raines & W. Stafford, of Almonte. President Booth, of

the O. A. & P. S., has, it is said, declined to take stock, preferring to confine himself to his present lines. It is said the route has been surveyed.

Cassiar Central.—E. D. Self, General Manager of the Cassiar Central Ry., recently stated to a reporter at Wrangel, Alaska, that the Co. has a great many prospecting parties working near Dease Lake & in the country between Dease & Teslin, many of whom are sending in flattering reports regarding the country. He said, "It is the purpose of the Co. to build a line from Glenora, B.C., to Dease Lake in the Spring, & surveys are now being made for a continuation of the road from Dease to Teslin, making a through route to Teslin via Dease Lake. The country between Dease & Teslin is found to be remarkably level & free from underbrush, making the project very possible. No doubt exists that the country to be traversed by the line is remarkably rich in mineral, both placer & quartz, & the promoters of the scheme expect large returns from their investment."

Coast Ry. of Nova Scotia.—President Baker, of the Yarmouth S. S. Co., having made a trip over this line last month with Superintendent & Chief Engineer Wheaton, gave rise to a report that that Co., in conjunction with English capitalists, would take over the line & push it on to Halifax. Mr. Wheaton informs us there is no foundation for the report. Construction work has been much delayed, & the progress anticipated at the beginning of the season has not been made. Of the 21 miles under construction, beyond the 31 miles in operation between Yarmouth & East Pubnico, the greater part of the masonry is completed, the grading is well advanced & most of the ties are on the ground. Every effort will be made to complete this 20 miles, so that the line may be in operation to Barrington early next season. A survey of the entire line has been completed to Halifax, & plans are being prepared. (Ap., pg. 40; May, pg. 66; Aug., pg. 151; Sep., pg. 183.)

Cobourg, Northumberland & Pacific.—No late news is available about this projected line, & it begins to appear doubtful as to whether the £151,200 5% bonds offered in England some months since were taken up. Some survey work was done during the summer under H. K. Wicksteed. The line as located is 49 miles long, & runs about n.e. from Cobourg through the villages of Baltimore (6 miles), Centreton (14m.), Burnley (20m.), Wardworth (26m.), Campbellford (35m.), Rawdon (42m.), & connects with the C.P.R. & the Central Ontario Ry. at Central Ontario Jct. The maximum grade is 1%, & 6° is the greatest degree of curvature. Leaving Cobourg there is a nearly continuous maximum grade for 15 miles, where it is necessary to cross a divide about 720 ft. above the lake. There is only one bridge of considerable extent, which is across the River Trent at the northern end of Campbellford village. The heaviest bit of work is from the Summit east for about 15 miles, where it is very heavy. There are no serious engineering problems.

The estimated cost is from \$12,000 to \$13,000 a mile. (June, pg. 100; July, pg. 126; Aug., pg. 146.)

Intercolonial.—Rhodes, Curry & Co., Amherst, N.S., have the contract to build a pier 600 ft. long, 160 ft. wide & 80 ft. long at Halifax. There will be steamship berths on each side with 28 ft. of water at low tide. There will be a warehouse 500 ft. long, & numerous tracks on the wharf. The contract price is \$35,000.

A contract has also been let for building a grain elevator at Halifax to be completed early this winter.

A 150 ft. steel span has been erected at Antigonish in place of the wooden structure.

Inverness & Richmond.—This Co. was incorporated by the Nova Scotia Legislature in 1887 to build a line from the Straits of Canso, at or near Port Hawkesbury, to Cheticamp, by way of Port Hood, Mabou, Broad Cove & Margaree, with a branch from or near Mabou to Wycocogmah, thence to connect with the I.C.R. at or near Orangedale. For the 1st 53 miles to Broad Cove mines, the Dominion Parliament has voted a cash bonus of \$3,200 a mile, the Nova Scotia Legislature has voted a similar amount, & the County of Inverness has voted \$1,000 a mile. The 53 miles have been surveyed by H. M. Stone, C.E., of Chicago, assisted by J. Davis, C.E., of Ottawa, & Mr. Noble, of Mabou. Some time ago about 15 miles from Port Hawkesbury north were partially graded, & the Co. has had some men at work since July last to comply with the Act. The charter is controlled by P. Ryan & R. H. Bowes, of Toronto, who recently visited the work in Company with C. M. Wickar, of New York, representing U.S. capitalists who Messrs. Ryan & Bowes are seeking to interest in the undertaking. The principal object of the line would be to develop the coal fields along the route, which are said to be valuable.

Kootenay Ry. & Navigation Co.—It is said a contract has been let to Foley & Guthrie, of St. Paul, Minn. to build 53 miles from Bonners Ferry, Idaho, to Kootenay Lake, B.C. The portion of the line in U.S. territory will be built under the charter of the Kootenay Valley Co., particulars of which will be found on pg. 231 of this issue. The portion of the line on the Canadian side will be built under the charter of the Bedlington & Nelson Ry. Co., the whole being controlled by the Kootenay Ry. & Navigation Co., an English company, full particulars of which will be found in our Sep. issue, pg. 181. The intention is to make connection with the Great Northern Ry. (U. S.) at Bonners Ferry & to run through trains to Kootenay Lake, from which point connection will be made by the steamers of the International Navigation & Trading Co., which have been purchased by the K. & N. Co., with the Kaslo & Slocan Ry. at Kaslo, this railway having also been acquired by the K. R. & N. Co.

Lake Erie & Detroit River.—Bonus by-laws to grant this Co. aid in the construction of its proposed line from Ridgeway to St.

Thomas were voted on on Nov. 10, & were carried in St. Thomas, Dutton, Aldboro & Orford, & lost in Dunwich. The amounts asked for were \$20,000, \$2,500, \$7,000 & \$2,000, respectively. The majorities were 90, 25, 266 & 182, respectively.

Restigouche & Western.—In our Aug. issue we said 15 miles of the survey had been revised & 10 miles would soon have been located, & that then another 10 miles would be located. We should have said "constructed" in each case, instead of "located." On Oct. 8 the Chief Engineer advised us that the first 20 miles of the line had been located & 15 miles revised. The contractors, Malcolm & Ross, had then 500 men at work. The first 10 miles had been graded & work had been started on the next section. A steamer was then at Campbellton dock with the first cargo of rails, & tracklaying & ballasting were to be gone on with at once. On Nov. 18 the Chief Engineer advised us that the section of 10 miles was laid, & would be all ballasted by Nov. 25. There will be a party in the field locating all winter. (See July, page 122, Aug., page 151.)

The Edmonton District Ry. Co. was incorporated by the Dominion Parliament in 1896, the incorporators being H. C. Wilson & other Edmontonites, & W. T. Jennings, of Toronto. The Co. was empowered to construct & operate a standard gauge railway from the terminus of the Calgary & Edmonton Ry. at South Edmonton to Edmonton, with lines from Edmonton northwesterly, via St. Albert, to the Athabasca River, at or near Fort Asiniboia, with a branch to Stony Plains, also from Edmonton northeasterly to or near Fort Saskatchewan, with a branch to Sturgeon River. At the 1898 Session the Co. was further empowered to build from its point of connection with the Athabasca River to the Peace River, thence to Nelson River by way of the Nelson, Liard & Francis Rivers to the navigable waters of the Pelly River. The Co. also has power to operate vessels on the Saskatchewan, Pembina, Athabasca, Peace, Nelson, Liard, Frances, Pelly, Mackenzie, Peel, Porcupine & Yukon Rivers. The charter has been sold by the original promoters, the present owners, among others, being Hon. W. Pugsley, G. McAvity & A. G. Blair, jr., of St. John, N.B. We are officially informed that the Co. is making surveys & intends to commence construction of the line from South Edmonton to Edmonton as soon as the bridge over the North Saskatchewan River, now being built by the Dominion Government, is completed.

C.P.R. Freight Differentials.

Vice-President Shaughnessy issued the following on Oct. 27:

To the Executive Officers of Transcontinental Railway Lines:

"We have been notified of the award of the Arbitrators in the matter of freight differentials claimed by this Company between East-

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Printing Co.
THE RECOGNIZED
LEADING..... LIMITED
RAILROAD AND
STEAMSHIP PRINTING
HOUSE OF CANADA

FOR ESTIMATES AND SAMPLES, ADDRESS
RICHARD SOUTHAM, MANAGER, TORONTO

Engine Packing
Magnesia Pipe Covering
Oils and Grease

WILLIAM C. WILSON & CO., 24 Front Street East,
TORONTO.

ern points and San Francisco. The decision of two of the Arbitrators is:

"That the C.P.R. is not, nor should it be, entitled to a differential under the rates made by the U.S. lines for the carriage of the freight in question."

"The arbitrators do not mention the grounds upon which the decision is based, but we are informed that the question turned upon a technical interpretation of the word 'entitled,' which was taken to mean 'inherently entitled,' instead of 'equitably entitled.'"

"To believe that the word 'entitled' was introduced by the framers of the Denver resolution in any other than the broad sense in which it is used between railways, would be to believe them guilty of trickery, & we refuse to entertain such a thought. We never claimed to be inherently entitled to differentials. Our contention was based upon common usage & upon the practice prevailing among railways under similar circumstances & conditions."

"If we be correctly informed that the decision turned upon the interpretation of a word & not upon the evidence as presented, ordinary fairness would require a re-submission of the case for determination upon its merits. If the other lines interested be unwilling to join in this simple act of justice, we have nothing to do but submit to the decision as rendered."

"The question of a differential having been settled, circumstances will determine the best & most expedient course for the protection of this Co's interests. Notwithstanding the combinations for that purpose, the American lines can scarcely expect to deprive us of participation in inter-state traffic while they are competing freely for the inter-provincial traffic of Canada, nor can they reasonably complain if we seek to make good out of the former what we may lose of the latter."

ELECTRIC RAILWAYS.

Niagara Falls Park & River Ry.

W. T. Jennings, C.E., M.Inst.C.E., Toronto, writes us as follows:

Your October issue contained an article entitled "The Application of Electrical Power on Trunk Line Railways" by G. Forbes. In this article reference is made to the Niagara Falls Park & River Ry. After incorrectly describing the length, etc., of the line the statements are made "that it is operated by electricity generated by water-power at the Falls, & also by a small auxiliary steam plant placed at the Queenston end of the line; that there is 15 minutes headway in the running of the cars, & that the cars when fully loaded sometimes weigh more than 20 tons," etc. The article continues as follows:

"This railway has been referred to, not because of any special merit which it possesses, but because it is not a street railway, & because it shows a method of working. In fact, reference is made to it partly to draw attention to the extremely objectionable feature of it. When water-power was available it was not good policy to use steam power at a distance of 12 miles. Of course, if the electric pressure were only 500 to 600 volts, there would be a great waste of energy or an enormous expenditure of copper in carrying the current to even that short distance; but there would have been no difficulty in transmitting electrical power at high pressure, transforming it down & converting it into a continuous current. This would have saved nearly the whole expense of working the steam plant. It is important to give attention to this matter of the use of water-power on trunk railways. There has been an absurd hesitation to undertake the transmission of power to great distances. If engineers who have had experience in the transmission of power

& in the conversion of alternating into continuous currents would look into this question, they would be convinced that where water-power is available it is generally economical to transmit electrical power hundreds of miles for working railways."

Now, Sir, as the engineer under whom this railway line with its appliances was constructed in 1892, I must take exception to such of the above adverse statements as concern this undertaking, inasmuch as I believe my treatment of the system was at the time commercially correct, & under the peculiar working conditions, it is even now questionable if a change is advisable or economical considering the capital invested.

That your readers may have a correct idea of the situation & governing circumstances, I would first mention that the railway system consists of a double track line, extending southerly some $4\frac{1}{2}$ miles from Niagara Falls to a safe steamboat landing on the River considerably above the rapids, & from the Falls northerly for 9 miles to Queenston, on the same river, & at the head of steamboat navigation from Toronto & other Lake Ontario points. The alignment is in accordance with what the restrictions of the locality, business & charter require, & in it there is no unusual feature for the class of country traversed. Of the gradients, the same may be said, excepting at the Queenston end, where in a distance of 7,725 ft. (say, $1\frac{1}{2}$ miles) a descent is made of 330 ft. on an average gradient of $4\frac{1}{2}$ per 100 ft., with a short maximum section of 577 ft. The entire system is in ordinary, & always has been, operated by electricity generated by water-power at the Company's power house at Niagara Falls, & as above stated, distant 9 miles from the heavy gradient at Queenston.

Powerfully equipped motor cars run over the lines on a schedule of 10 or 15 minute headway, but to meet the extraordinary feature of the traffic during the holiday term between, say, June 1 & Sep. 10, when $\frac{3}{4}$ of the year's business is done, it was found that to transport to the Falls with speed & facility the crowds of excursionists (sometimes 2,000) arriving at various intervals between 9.40 a.m. & 2 p.m., it would be necessary to put on a motor service of 2 minutes headway, running at 7 miles an hour up this $1\frac{1}{2}$ miles of $4\frac{1}{2}$ average gradient, & thence to the Falls, etc., at a speed of, say, 20 miles per hour. The large single observation motor cars, or the short ones with trail car attached, average 15 tons weight when loaded. The time interval & speed of cars on the grade means that six such loads would be continually ascending until the supply of passengers became exhausted. Therefore, to meet the occasional demand for such a service during the holidays, the writer, after making exhaustive inquiries & estimates as to cost of then existing electrical transmission plants, came to the conclusion that the plan entailing the least outlay of capital & continuous expense, including interest, depreciation & working costs, was to instal & use when necessary, during the above-mentioned busy period, the present 300 h.p. steam (& corresponding electric) plant, which has proved satisfactory. Its entire cost being, at that time, \$23,000, & \$1,100 per season the cost for operating.

With the above information anyone understanding the question at issue will readily see that the subject was studied out before being acted upon, & that the determination arrived at entailed the least capital expenditure for a class of plant saleable at any time when circumstances demand a change, & the proprietors of the system deem it advisable to expend the necessary capital. Of course, if the line were just now being opened for traffic, an ordinary electrical transmission plant would be used for work on the Queenston gradient instead of steam, but we have more light in electrical matters now than we had in

1892, & good machinery of the required class is rated at less than half the price of that advanced at that time.

ANOTHER REPLY TO MR. FORBES.

R. W. Angus, B.A. Sc., Fellow in Electrical Engineering, Assistant Instructor School or Practical Science, Toronto, also writes us on the same subject, as follows:

In your edition of October an article appeared on "The Application of Electric Power on Trunk-Line Railways," by G. Forbes, whom I am informed is the Professor Forbes who was one of the consulting engineers of the Cataract Construction Co. Perhaps it may seem like presumption on my part to criticise his paper, but it appears that in part of his article, at least, he has not adhered strictly to the facts. The case to which I refer in particular is the information in regard to the Niagara Falls Park & River Ry.

The cars on the line have a 2 minute headway during the busy season, & at the Queenston end have to ascend an average grade of $4\frac{1}{2}\%$, one & a half miles long at a rate of 7 miles an hour. The distance between the hydraulic power house & the Queenston station is 9 miles, instead of 12, as stated.

Mr. Forbes says, in speaking of this road, "This railway is referred to, not because of any special merit which it possesses, but because it is not a street railway, & because it shows a method of working. In fact, reference is made to it partly to draw attention to the extremely objectionable feature of it. When water-power was available it was not good policy to use steam power at a distance of 12 miles."

These latter statements, I feel sure, will not be as self-evident as Mr. Forbes would lead your readers to believe, & I have found on making an approximate estimate on the cost of running this section of the line (the Queenston grade) during the busy season, either by steam, as at present, or by means of a 3 phase high voltage transmission receiving power from the water-wheel at the Falls; that there is a good balance in favor of the former method, without making any charge whatever for the power supplied by the water-wheels to the generator, an item which cannot be neglected. I have not had sufficient time to get accurate figures on the subject, but the estimates will be very close, & show a result so decidedly in favor of the former system that little room can be left to doubt the result with more accurate figures. Mr. Forbes probably lost sight of the fact that the power-house at Queenston is only run for about $\frac{3}{4}$ months in the year, & also that at the time it was built (1892) polyphase transmissions had scarcely passed beyond the experimental stage; but even if the plant were now being installed, it does appear from my figures that the present system is the more economical.

In regard to the statement, "This would have saved nearly the whole expense of working the steam plant," Mr. Forbes seems to assume that the hydraulic power is obtained nearly free of cost, while in reality the extra power which would be required for the transmission would necessarily increase the size of the water-wheels, etc., & the consequent capital expenditure, & taking interest & depreciation on invested capital, & adding to this the actual cost of keeping up the transmission, it will be found to be considerable & in fact, far out-balances the expenditure on the present plant. Further than this the Co. has now substantial engines & boilers, which would bring a good price if it wished to dispose of them, while the forms of polyphase apparatus in use in 1892 would probably now be almost worthless.

Further on the article says: "There has been an absurd hesitation to undertake the transmission of power to great distances. If engineers who have experience in the transmission of power & in the conversion of alter-

neting into continuous currents would look into the question, they would be convinced that where water power is available it is generally economical to transmit electrical power hundreds of miles for working railways." This statement seems broad, & it must be rather exasperating to the railway engineers to find that they have not properly "looked into the question," or their transmissions would in general be electric, for there is always a source of water power within hundreds of miles of a place. Surely no man can truly lay claim to the title of engineer who would not in such an enterprise carefully investigate all feasible systems as to the proper distribution of power.

In the case of the Niagara Falls road there was no man, Mr. Forbes included, who knew as well as the Constructing Engineer did that the Co. had water power at its disposal, & yet Mr. Forbes would lead us to believe that proper investigation was not made as to the advisability of using it to drive electrical machinery for a power transmission to Queens-ton. Such, however, is not the case, for the cost of this scheme was, I understand, fully discussed along with the others; but the idea had to be dropped on account of its cost & the fact that no sufficient guarantees could be obtained on the operation of transmitting machinery in use at that time.

I regret that I have not had time to obtain a detailed account of the exact cost of operation of the present system & the one suggested; but what I have already done convinces me of the wisdom of building the steam station, & it seems to me Mr. Forbes should endeavor to look more closely into the matter before speaking of what he inconsiderately calls the "extremely objectionable features" of it.

In speaking of rotary transformers for the conversion of alternating into continuous currents, he says: "It does its work admirably, but is expensive, cumbersome & requires continual attention," three points which should immediately condemn its use. Perhaps, however, we have the reason of his antipathy for the above road more clearly pointed out by the following from the same article: "But I have prepared the design for a transforming & commutating machine free from all the defects (of the rotary transformer) referred to, which can be manufactured at small cost," for he can perhaps see no chance for the use of such a machine on the road in question.

It is a matter of regret that Mr. Forbes should without thought refer disparagingly to the work of an engineer who was certainly in as good a position as anyone to know what system of power was most economical in the case under his control.

Montreal Street Railway Company.

At the 38th annual meeting at Montreal, Nov. 2, the following report was presented:

The statement of the past year's business shows a net profit of \$601,704.18, as compared with \$507,855.60 for the previous year. Out of this amount there have been declared 4 quarterly dividends of 2½% each, amounting in all to \$462,916.66, the balance of \$138,787.52 being added to the surplus.

The road-bed, rolling stock & other property of the Co. have been maintained in a

high state of efficiency, the cost thereof having from year to year been charged to operating expenses. The directors consider it advisable, however, to set aside a portion of the accumulated earnings for the purpose of providing against heavy or special renewals, & they have consequently adopted that policy establishing an account for such contingencies by transferring \$100,000 from the surplus to the credit of a contingent account. It will be noticed by the statistical statement that the Co's business continues to increase in a satisfactory manner, & it is also gratifying to note that the percentage of operating expenses shows a further reduction on last year's figures.

A fire occurred on the Co's premises at Hochelaga Sep. 16, destroying a car shed & a considerable amount of rolling stock & electrical equipments. The Co's loss, however, was fully covered by insurance, & immediate steps were taken to replace the rolling stock, all of which will be turned out at the Co's shops according to the latest standard. In spite of this heavy loss in rolling stock the Co's business was done as usual the following day, without inconveniencing the public or affecting the receipts.

The Co's rolling stock has been increased during the past year by the addition of 22 closed motor cars & 60 open motor cars, all of which have been constructed in the Co's shops. There are also under construction 40 motor cars, which will be ready for this winter's service, & 75 open motor cars, which will be ready for next summer's traffic. Seven sweepers are also being constructed to replace those destroyed in the fire; also 3 additional ones, all of which will be ready for service this winter.

A system of cast-welding of the rail-joints has been introduced, which, judging from the results obtained elsewhere, is calculated to produce a great benefit, & also to considerably reduce the expense of track maintenance.

The President, Senator Forget, in submitting the report said that it spoke for itself. The business is still on the increase, & he could add that the 1st month of the present year was the best in the Co's history. It had been thought by some that the limit of increases had been reached, but such was not the case. Oct. showed an increase of \$17,398 over the corresponding month of last year. The increase for Oct., '97, over Oct., '96, had only been \$7,000. The list of stockholders also showed an increase from 609 to 753. This meant that investors were taking up the stock. The Co. wanted all the friends it could get. He hoped they would watch the service as they had done in the past, & help to improve it, if it could be improved.

FINANCIAL STATEMENT.

ASSETS.	
Cost of road and equipment:	
Construction, &c.	\$2,901,959.38
Equipment, &c.	2,093,061.47
Real Estate and buildings	4,995,020.85
Stores	1,207,942.08
Accounts receivable	40,421.45
Cash in bank and in hand	20,796.19
Cash on deposit with City of Montreal	146,490.82
	25,000.00
	171,490.82
	<u>\$6,435,671.39</u>

LIABILITIES.	
Capital stock	\$5,000,000.00
Uncalled issue of 1897	300,000.00
	<u>\$4,700,000.00</u>
Bonds:-	
5% payable Mar., 1908	292,000.00
4½% " Aug., 1922	681,333.33
	973,333.33
Mortgages	5,014.81
Accounts and wages payable	60,320.87
Accrued fixed charges:-	
Interest on bonds	5,170.00
Tax on earnings	64,355.48
	69,525.48
Employes securities	4,324.00
Unclaimed dividends	2,062.49
Unredeemed tickets	18,815.56
Suspense accounts	11,740.37
Dividend payable Nov. 2, 1898	117,500.00
Contingent account	100,000.00
Surplus	373,034.78
	<u>\$6,435,671.39</u>

INCOME ACCOUNT.	
Dividends	1898
Transferred to surplus account	1897
	\$462,916.66
	\$368,389.33
	138,787.52
	139,522.27
Income over and above expenses and fixed charges, exclusive of dividends	1898
	\$601,704.18
	\$507,855.60

STATISTICAL STATEMENT, 1892-98	
Gross receipts	1892
Increase '98 over '97	1893
Operating expenses	1894
Increase '98 over '97	1895
Operating expenses	1896
Increase '98 over '97	1897
Operating expenses	1898
Increase '98 over '97	1899
Operating expenses	1900
Increase '98 over '97	1901
Operating expenses	1902
Increase '98 over '97	1903
Operating expenses	1904
Increase '98 over '97	1905
Operating expenses	1906
Increase '98 over '97	1907
Operating expenses	1908
Increase '98 over '97	1909
Operating expenses	1910
Increase '98 over '97	1911
Operating expenses	1912
Increase '98 over '97	1913
Operating expenses	1914
Increase '98 over '97	1915
Operating expenses	1916
Increase '98 over '97	1917
Operating expenses	1918
Increase '98 over '97	1919
Operating expenses	1920
Increase '98 over '97	1921
Operating expenses	1922
Increase '98 over '97	1923
Operating expenses	1924
Increase '98 over '97	1925
Operating expenses	1926
Increase '98 over '97	1927
Operating expenses	1928
Increase '98 over '97	1929
Operating expenses	1930
Increase '98 over '97	1931
Operating expenses	1932
Increase '98 over '97	1933
Operating expenses	1934
Increase '98 over '97	1935
Operating expenses	1936
Increase '98 over '97	1937
Operating expenses	1938
Increase '98 over '97	1939
Operating expenses	1940
Increase '98 over '97	1941
Operating expenses	1942
Increase '98 over '97	1943
Operating expenses	1944
Increase '98 over '97	1945
Operating expenses	1946
Increase '98 over '97	1947
Operating expenses	1948
Increase '98 over '97	1949
Operating expenses	1950
Increase '98 over '97	1951
Operating expenses	1952
Increase '98 over '97	1953
Operating expenses	1954
Increase '98 over '97	1955
Operating expenses	1956
Increase '98 over '97	1957
Operating expenses	1958
Increase '98 over '97	1959
Operating expenses	1960
Increase '98 over '97	1961
Operating expenses	1962
Increase '98 over '97	1963
Operating expenses	1964
Increase '98 over '97	1965
Operating expenses	1966
Increase '98 over '97	1967
Operating expenses	1968
Increase '98 over '97	1969
Operating expenses	1970
Increase '98 over '97	1971
Operating expenses	1972
Increase '98 over '97	1973
Operating expenses	1974
Increase '98 over '97	1975
Operating expenses	1976
Increase '98 over '97	1977
Operating expenses	1978
Increase '98 over '97	1979
Operating expenses	1980
Increase '98 over '97	1981
Operating expenses	1982
Increase '98 over '97	1983
Operating expenses	1984
Increase '98 over '97	1985
Operating expenses	1986
Increase '98 over '97	1987
Operating expenses	1988
Increase '98 over '97	1989
Operating expenses	1990
Increase '98 over '97	1991
Operating expenses	1992
Increase '98 over '97	1993
Operating expenses	1994
Increase '98 over '97	1995
Operating expenses	1996
Increase '98 over '97	1997
Operating expenses	1998
Increase '98 over '97	1999
Operating expenses	2000

E. H. Copeland enquired as to the fund which had been laid aside for accidents. The President replied that \$100,000 had been taken from profit & loss account & transferred to the contingent fund. Every year had borne its own cost for the laying of new tracks, etc. There was a special fund for accidents.

Sectional Pipe and Boiler Coverings of every description. **Belting, Cotton Waste, &c.** **ASBESTOS** in all its forms. **Engine Packings, Oils and Grease,** **Mineral Wool** for deafening, fire-proofing, &c.

EUREKA MINERAL WOOL & ASBESTOS CO., - - 136 BAY ST., TORONTO.

Mr. Crawford asked how the fund stood, but the President did not think it was in the interests of the Co. to give the amount, though he volunteered to tell him privately. The contingent fund was heavy in case they had to meet some heavy changes, as electricity was going ahead every day. Provision was made to assure to the shareholders a minimum of dividends.

Mr. Crawford wanted one fund raised to \$500,000, & the other to \$250,000, the Co. would thus be able to face any serious responsibility which might arise. The President replied that the funds were being increased gradually.

Mr. Crawford enquired as to the progress which was being made in the negotiations with the Seminary, regarding the acquiring of property for the Cote des Neiges route, but the President told them that the gentlemen of the Seminary did not care to have their names in print, but assured him that everything was going on smoothly.

Mr. Joseph enquired the amount of the percentage paid to the city during the year, & was told it was \$69,907.21, & the President promised that in future an entry would be made in the statement of the amounts paid yearly.

Mr. Crawford said that no company was better managed than the Montreal Co., both as regards the interests of the shareholders & public. As to the Cote Des Neiges route, he hoped the Co. would never build that route unless it was compelled to do so at the point of the bayonet. There was no machinery now in existence to stop a car once it got started down the incline of that hill. The Co.'s responsibility would be serious if that line was ever opened.

To Mr. Cochrane, the President said that the city's contract for the removal of snow would expire next year. This was the last winter.

Mr. Crawford expressed satisfaction at the satisfactory way in which the statement was got up. It was most complete.

In reply to Mr. Wilson, R. B. Angus, who had assisted in the creation of the contingent fund, stated that he failed to see any necessity to make it larger than it now was nor did he think that the directors should be bound to any particular amount.

The report was adopted unanimously. The following resolution was unanimously adopted: That the directors are authorized to apply to the Quebec Legislature next session for a bill to amend its charter to authorize the increase of the capital stock & confirm certain contracts with such modifications as they may deem expedient.

A resolution was also carried voting \$6,000 for the services of the directors for the ensuing year. Mr. Crawford thanked the directors for having granted quarterly dividends so readily. The President returned thanks, & the old directors were re-elected as follows: L. J. Forget, J. Ross, R. B. Angus, K. W. Blackwell, F. C. Henshaw. At a meeting of the directors Hon. L. J. Forget was re-elected President for the coming year.

The Co. is now paying quarterly dividends at the rate of 10% a year.

The gross earnings are:

	1898.	1897.	Increase.
October.	\$133,419.69	\$116,093.09.	\$17,326.60.

The Montreal Assessors' Department is preparing to place the property of the Street Ry. Co., now exempt, upon the assessment rolls for next year. The assessors were not sure of their ground, & delayed action until the rolls for this year were signed. It is now proposed to study the question thoroughly & place all property of this class now exempt on the rolls of 1899. The Department has been seeking information on the subject for the Toronto Assessment Commissioner.

Quebec, Montmorency & Charlevoix Ry.

This Co. has recently invited applications for an issue of \$1,500,000 25-year 5% gold bonds, in bonds to bearer of \$1,000 each maturing June 1, 1923, interest payable 1/2 yearly, June 1 & Dec. 1. The bonds are secured by a 1st mortgage on the entire plant, property, franchises, revenues & undertakings of the Co. The authorized share capital is \$3,000,000, of which \$2,000,000 is issued & paid up, the balance of \$1,000,000 remaining in the Co.'s Treasury. The Co. reserves the right to redeem the bonds at 110 & accrued interest on giving 6 months' notice. The price of issue is 104 & accrued interest.

Following are extracts from the prospectus:—The Co. owns & operates the electric railway system of the City of Quebec. It also runs from the City of Quebec past Montmorency Falls & Ste. Anne de Beaupre to Cap Tourmente, a distance of about 30 miles, which is at present operated by steam. It is intended to electrify this road throughout, & also to construct an independent branch along or near the highway to Montmorency Falls, the whole to be run in connection with the electric railway system of the City of Quebec, which the Co. now owns & operates. The estimated cost of these improvements is \$330,000, & out of the proceeds of the present issue this sum, or its equivalent in bonds, will remain in the hands of the trustees to be expended for such work as it progresses. When completed the system will comprise over 60 miles of well equipped electric railway.

The actual result of the operation under one management for the past 3 months of the combined system as it at present exists, viz., partly steam & partly electricity, is as follows:—

Gross earnings	\$79,006.36
Operating expenses	33,647.01
Net	\$45,359.33
It is estimated that the cost of snow removal for the year will be about \$12,000. Distributing this sum over the year, the proportion to be added to above operating expenses would be.....	
	3,000.00

Leaving net revenue for 3 months..... \$42,359.35

The General Manager states that: "In considering these results, it must be borne in mind that although the summer returns may be regarded as more favorable than those of the winter months, at the same time, the above actual returns are from an incomplete system, being partly steam & partly electric, & that when the improvements & additions to the system which are contemplated & provided for are complete the actual returns will undoubtedly be largely increased."

E. A. Evans, C.E., General Manager & Chief Engineer of the Consolidated System, has made the following estimate of the probable net income of the completed railway system, & as he has had full charge of the construction & operation of the present electric system, his opinion should have weight. He estimates as follows:

Net estimated returns city system as at present	\$137,500
Net estimated present steam system when converted	67,500
Net estimated to Montmorency when constructed	18,900
	\$223,900

To provide for interest on bonds, say 5% on \$1,500,000..... 75,000

Surplus..... \$148,900

He further remarks: "By combining the City system with the Cap Tourmente & Montmorency systems the track mileage will be nearly 61 miles, & by placing the whole under one management I have no hesitation in affirming that the property when completed should yield the above returns & that the security is a most excellent one."

R. C. Brown, late General Manager of the Halifax Electric Ry. & now of the Metropolitan Traction Co. of New York City, has thoroughly investigated the matter, & he

estimates the net income of the Co., when the system is completed, after providing for the interest on \$1,500,000 of bonds, will be \$99,650. In closing his report he says: "I think that you may congratulate yourselves on having in this system a well equipped road with remarkable earning powers, & one that under careful management can be operated more cheaply than the average electric railway system."

In addition to the reports of Mr. Evans & Mr. Brown, we have had an examination made of the property by Ahearn & Soper, electrical experts, of Ottawa, & in their report, dated Oct. 17, 1898, appears the following: "We have an intimate personal knowledge of the character of the construction & equipment of the Quebec District Ry., & consider it unexcelled by any electric railway on this continent. The roadbed, rails, overhead electrical construction, cars, trucks & motors are all of the latest & best type. Owing to the railway's exceptional equipment, repairs will be very inexpensive. This fact, together with the operation of the road by water power, & the excellent management which characterizes the Co., render the property one that can be operated with great economy, while the peculiar topographical features of Quebec make the use of the cars almost a necessity & ensure an increasing revenue. In conclusion, we beg to say that we consider the estimate of Mr. Evans fair & conservative. In our opinion the figures given by him for the probable earnings of the steam railway transformed to electricity & the electric railway on the highway between Quebec & Montmorency are somewhat lower than the actual results will prove."

The Co. has a 30 years franchise on most favorable terms with the City of Quebec.

A special general meeting of shareholders at Quebec, Nov. 2, confirmed the resolution passed at the special general meeting held September 13, whereby the directors were authorized to issue 1st mortgage bonds to an amount of \$1,000,000 in part payment of the purchase price of the property, plant, buildings, etc., of the Montmorency Electric Power Co.

The London Street Ry. Strike.

Towards the end of Oct. the motormen & conductors formed a division of the St. Ry. Employes Union & sent a deputation of 5 to Manager Carr, asking for increased pay, a more regular division of work, & that none but union men be employed. Mr. Carr refused to recognize the union, & dismissed the members of the deputation on the ground that they had left their cars without leave. The Co. was willing to advance wages, but refused to recognize the union. Of the 97 men employed, 94 went on strike. The Co. obtained men from other places, but was prevented employing them owing to a clause in the charter providing that residents of the city should be employed exclusively. The citizens and Council showed unmistakable sympathy with the strikers, & the Co. had to abandon running cars, except an occasional one which went under police protection. President Everett & Vice-President Moore came from Cleveland, O., & several conferences were held, but without avail, the majority of the citizens wore badges, "We walk," & the strikers put on a bus line, which contained contribution boxes, as they were not entitled to collect fares. Considerable rowdiness was indulged in, & some damage was done to the Co's property.

It is said the troubles date back to Mar. 1897. Up to that time the scale of wages was 12 1/2 c. an hour for the first 6 months; 13 1/2 c. an hour for the next 6 months, & 14 1/2 c. an hour for the next 6 months, or \$8.50 a week. After a year at this rate of wages the men were given 15c. an hour, or \$9 a week on a regular run

of 10 hours a day. A new superintendent was appointed in Mar., 1897, & from that time the scale of wages remained stationary until Oct. 1, last, & there was no advancement. At the beginning of Oct. a change was instituted, whereby the day men on the 10-hour shift were changed with the night men, who work 7 & 7½ hours. The night men were given the day shift for two weeks & changed again, the old men then enjoying the day run for 2 weeks. This fortnightly alternating arrangement reduced the wages of the old employes to the neighborhood of \$6 a week, without, it is said, materially benefiting the men on the relief shift or the spare men.

Summarized, the demands made by the employes were as follows:—Wages for motormen & conductors to be 16½c. an hour & 9 hours a day, relief men to be given the remaining 8 hours, & overtime to be paid for at the rate of 20c. an hour. None but residents of London to be employed, & they must first be accepted by the union. Conductors & motormen to be marked up on the blackboard in accordance with length of service. Spare work to be equally divided among the spare men. Employes to report 15 minutes before the run goes out, in default of which the place shall be given to the 1st spare man, & if the employe fails to report inside of 4 hours he shall lose next day also. No motorman or conductor to pay for breakages not due to his own carelessness, or lose his time when obliged to look up accident reports. If suspended wrongfully, the employes to be reinstated with back pay, should the investigation prove the employes not at fault. Disputes to be settled by 3 arbitrators, 1 appointed by the men, 1 by the Co., & the 2 to choose a 3rd, their finding to be binding. Employes to have free transportation over the system. Officers & committees not to lose their positions if required to lay off to transact union business.

The strike continued until Nov. 10, when a compromise was effected, both sides giving way to some extent. The men secured, a small increase in pay & recognition of the union. The men demanded 16½c. an hour, the Co. offered 15c. A compromise was made at 15 1-3c. The strikers were reinstated & the line recommenced running on Nov. 11.

James Ross' English Visit.

Jas. Ross, Vice-President of the Montreal Street Railway Co., who, with Mrs. Ross, has recently returned from an extended visit to Great Britain, has made some interesting remarks upon street railways in Britain & other matters. He observed that while he did not wish to cast any reflections upon the municipal bodies of Great Britain as regards the slow manner in which they moved, yet it was a fact that most of the cities were extremely conservative in the matter of a change from horse or steam to electrical power. The overhead system appeared to be generally accepted, & Liverpool & Glasgow, which had purchased their respective street railway systems, had each from 2 to 3 miles in operation. Bristol & Dublin were also to have the trolley. In Birmingham the people were undecided what course to pursue, & they will probably await results in the other cities. He also stated that all lines of business in Great Britain seemed to be prosperous. The Hooley revelations had caused more or less comment in financial circles, & it was quite likely they would have the effect of operating a beneficial change in the near future. It was more than probable that hereafter it would be much more difficult to float projects of a more or less questionable character. Canada & Canadians had a foremost place in British affections, & he spoke of the great interest taken in Britain in Canada's railway enterprises.

Competition of Electric Lines.

President Tuttle, of the Boston & Maine Ry., formerly Passenger Traffic Manager of the C.P.R., believes that the steam roads will have to bow to the inevitable & surrender a portion of their suburban traffic. No matter, he says, how the matter may be viewed, the street railway, within certain limits, has now, and will continue to have, the advantage over the steam roads. The latter may improve their service as much as they can, but they will find eventually that they cannot compete with the trolley lines, which insure service that the steam roads cannot give, & the latter will, therefore, have to abandon suburban business within 4 or 5 miles of the city. They will have to develop their long distance service, & can make improvements within a zone of from 6 to 25 miles, in addition to lowering the longer distance rates. In this way suburbs will be extended. With such an expansion & attention to through freight & passenger business the steam roads will still have an ample & profitable field of operation.—American Engineer.

British Columbia Electric Railway.

The earnings & expenses for Sep. were as follows:

	1896-7.	1897-8.	INCREASE
GROSS EARNING.			
Railway—Vancouver	\$4,501	\$6,456	\$1,955
Victoria	6,191	7,344	1,153
Westminster	5,379	10,352	4,973
Lighting—Vancouver	5,391	7,572	2,181
Victoria	3,234	4,228	994
Total gross earnings	\$24,666	\$35,952	\$11,286
Working expenses	\$17,336	\$19,855	\$2,519
Net profits	\$7,330	\$16,097	\$8,767
Aggregate Gross Earnings			
from April 1 to Sept. 30	\$130,743	\$190,362	\$59,619
Aggregate Net Profit from			
April 1 to Sep. 30	\$39,230	\$77,000	\$37,770

The aggregate gross earnings & net profit for 1896-7 are from April 15 only.

The Vancouver World speaks in high terms of the Co's service between Vancouver & New Westminster during the recent provincial exhibition at the latter place. One-third of the gross receipts during the exhibition, amounting to \$1,550, was appropriated in aid of those who suffered by New Westminster's disastrous fire. The regular fare, Vancouver to New Westminster & return, is 75c. During the exhibition it was reduced to 50c.

Maritime Province Lines.

Dartmouth, N.S.—There is nothing new to report on the proposal, mentioned in our last issue, pg., 216, to run the Dartmouth branch of the I.C.R., which extends from Windsor Jct. to Dartmouth, 13 miles, by electricity. It is said there is ample water power for the purpose at Fall River, near Waverly. The matter is under the consideration of Dartmouth Town Council.

Halifax.—The Tramway Co. has added 10 cars to its equipment this season, all of which have been built by Rhodes, Curry Co., at Amherst, N.S., of whose work Manager Huntress speaks in the highest terms.

The St. John Ry. Co. is appealing against its assessment by the city.

The Glasgow municipal government has begun operating a 5 mile section of street railway by electric traction with overhead wire. The cars are of a new design & seat 43 people. If the experiment succeeds electric traction will be introduced for the entire tramway service of Glasgow.

Ontario Electric Lines.

Cornwall.—The Electric St. Ry. Co. is undergoing reorganization, & until this is completed no steps will be taken in carrying out the rumored improvements in the system. It is hoped matters will be straightened out by the end of Nov. One of the principal changes likely to be made will be changing from steam to water power.

The recent strike is referred to in another column.

Hamilton, Chedoke & Ancaster.—S. Barker has become interested in this scheme & is trying to arrange matters with the Hamilton City & Ancaster Township Councils, so that the line may be built to Duff's Corner, about 3 miles beyond Ancaster. The township granted a \$5,000 bonus, which will lapse Dec. 1, unless the terms are changed, as it will not be possible to do the required work by that time.

Hamilton, Grimsby & Beamsville.—It is hardly likely that the proposed extension from Beamsville to St. Catharines will be carried out. J. Patterson, C.E., estimates the cost at \$107,000. There would be a 3% grade.

The Saltfleet Township Council is annoying the Co. in every way possible, & is going to the Courts. The council started out by contending that a crossing was not in good shape, & wanted \$500 solatium for breach of agreement. Now it has added a string of alleged violations & wants \$1,000, as well as a forfeiture of the franchise. The Co. contends there is no forfeiture clause in the agreement.

Hamilton Radial.—W. I. Degear, of Grimsby, has the contract for the extension from Burlington to Port Nelson, about a mile in length.

Hamilton Street.—With reference to the projected improvements in the system, referred to in our last issue, the Manager says that no plans have yet been matured.

For the quarter ended Sep. 30 the Co. paid the city \$4,146.22 for percentage & mileage, against \$3,715.85 for the corresponding period last year. There has been a slight increase in receipts.

Hull Electric Co.—In reference to the statement of the daily press that the Hull & Aylmer Electric Ry. is about to be extended to Gatineau Point, the Secretary of the Co. informs us that the Co. has no such intention at present.

Kingston, Portsmouth & Cataraqui.—In the Ontario Court of Appeal, Nov. 16, before Osler, MacLennan, Moss, J.J.A., in the case of City of Kingston v. Kingston, Portsmouth & Cataraqui Electric Ry. Co.—Judgment was given on appeal by plaintiff from judgment of Street, J., (28 O.R., 399), in favor of defendant. The action was 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 that the agreement was one of which the court would not decree specific performance, nor could it be enforced by mandamus, injunction, or declaratory judgment. Appeal dismissed with costs, MacLennan, J.A., dissenting, the majority of the court agreeing with the opinion of Street, J.

London.—The gross revenue for Sep. was \$15,441.00, against \$14,040.66 for corresponding period, an increase of \$1,400.34. The operating expenses were \$6,000.87, against \$5,607.14. The operating per cent. of earnings was 38.8, against 39.9 last year.

Metropolitan.—This line, which runs from North Toronto to Richmond Hill, is being extended to Newmarket. The work is progressing satisfactorily. In Aurora there was some difference as to the best location for the road, but it is expected the matter will be amicably settled. A large power-house is being built at Bond's Lake, where there will be

350 h-p., which will take the place of the North Toronto power-house. The land in the neighborhood of Bond's Lake has been purchased by persons who intend to make a summer resort there. It is said the line will be further extended, north to Lake Simcoe, west to Schomberg & north-east to Jackson's Point, Roach's Point & Beaverton, & that there will be a regular service for light freight as well as passengers.

Ottawa.—The City Council has taken action to compel the Electric Ry. Co. to extend its track to the Exhibition grounds in accordance with its contract with the city. An injunction has been applied for to restrain the Co. from operating the railway already built until the track has been extended as above mentioned, & the city claims \$10,000 penalty provided in a bond between the Co. & the city entered into in 1893. The Co. has declined to proceed with the extension on account of not having received the sanction of the Railway Committee of the Privy Council to cross the Canada Atlantic tracks. The application is still pending, & if it is granted the Co. will probably go on with the extension.

It is said the Co. still has in view the extension of its line to Britannia, but that nothing will be done before next spring.

Port Arthur.—It was stated in our last issue that W. Phillips, Manager of the Niagara Falls Park & River Ry., had been inspecting this line on behalf of the Dominion Government. The inspection was made for the Ontario Government. The town of Port Arthur, which built the line between that place & Fort William, agreed to build & maintain it in a certain condition within the town limits of Fort William. The Council of the latter place claims that the road is not being properly maintained & asked the Ontario Government to have an expert inspection made.

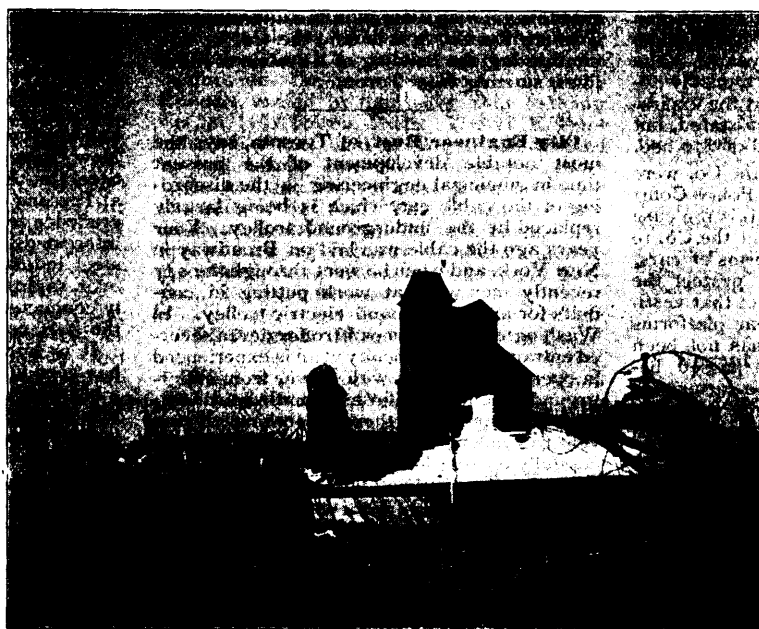
St. Catharines & Niagara Central.—Haines Bros., New York City, who recently bought this steam road, & who propose to electrify it, wrote us Nov. 12: "Freight is now being carried over the road, & passenger traffic will be resumed about Nov. 16. By that time the road will be in a safe condition again & will be extended to Port Dalhousie at one end & will have better terminal facilities at Niagara Falls. We are under the impression we will do away with the trestlework at once, which will mean an expenditure of \$60,000."

The Niagara Falls Park & River Ry. operates the 1st international electric road between Canada & the U.S. It is run across the greatest steel arch bridge in the world, which spans the Niagara Gorge at Niagara Falls very close to the great cataract. The line has a double track, & the cars that are operated on the bridge connect at the Canadian end with the cars of the road running between Chippewa & Queenston, along the top of the high bank on the Canadian side of the river. On the bridge the centre pole system is employed & the cars speed across the structure every few minutes. Under the present arrangement the bridge tickets purchased by strangers allow them the use of the trolley cars; that is, they ride free if they so elect. Residents of Niagara Falls who pay 10 cents for crossing the bridge are forced to pay an additional 5 cents to ride in the cars, making the price for crossing the bridge in

the cars 15 cents for both strangers & residents. The power for operating the cars on the bridge is supplied from the railway company's power station in the Queen Victoria Park. This crossing of the steel arch by the cars of the N. F. P. & R. Ry. places it in close business touch with the crowds of people in both of the great free parks at Niagara—the Queen Victoria Park on the Canadian side & the New York State reservation on the U.S. side. It is reasonable to suppose that all the people who go to Niagara sightseeing go to these beautiful parks, & therefore the advantages of the road for catching travel are extremely good. Then again, the New York State end of the line is right at Prospect Park, & the cars afford rapid transit between the free parks. The cars now run right up the Riverway, a street within the limits of the New York State reservation. In time it is expected that connection will be made between the N. F. P. & R. Ry. & some line on the U.S. side, either the Niagara Falls &

wider. On the night of Jan. 9-10, 1889, it was wrecked by wind. It was immediately rebuilt, & it is this latter structure that gave way to the arch, which is the largest in the world of its class.

The St. Thomas Street Railway, which for so many years gave to the city the name of the horse-car town, has passed away, and in its place a real, live, up-to-date electric street railway service is in full blast. The work of constructing the new road was undertaken by local capitalists entirely, with one exception, & June 15 last saw it complete & in full operation. C. McBeth, a graduate of the School of Practical Science, was engaged as electrical engineer, & is said to have handled the work with the assurance of a veteran. He superintended the electrical equipment, while T. Kerr, of the London Street Ry., gave him valuable assistance with the track laying. The latter was proceeded with rapidly, no trouble between the city & the Co. arising to hinder the work, as is too often the case. The Co., instead of building a power house for itself, engaged room in the spacious power house of the Gas & Electric Light Co. & purchased two 150 h.p. generators and 2 engines, the Manager of the G. & E. L. Co. looking after the working of them, & the railway paying for the power generated. The road is equipped with 8 motor cars & 2 trailers of the most improved type. The cars are equipped with 25 h.p. motors & double controllers. The cars at present in use have been found insufficient, & it is the intention of the directors to place several more on the road next spring. The length of track is 7 miles, 5 miles of a belt & 2 branch lines, one to the stations of the L. E. & D. R. & the G. T. Rys, & the other to the Co.'s park, which is one of the features of the road, comprising about 100 acres, & is partly wooded by a beautiful bush. It is situated on the banks of Lake Pinare, a very picturesque spot. Baseball, golf, cricket, lawn tennis,



G. N. T. CO'S STEAMER PACIFIC, BURNED AT COLLINGWOOD, NOV. 3.

& bowling clubs are accommodated there with suitable grounds, bathing, boating & fishing appliances being furnished for these pastimes. Buildings are being erected for the accommodation of picnic & dancing parties. The directors are sparing no pains to make this one of the most beautiful parks in Western Ontario, the natural facilities of the location assisting them very materially. This park is a boon to the city, being just what has been required for a number of years, & the electric railway has made it easy of access. J. H. Still is President, & Col. Stacey, who held the horse car franchise, Secretary-Treasurer of the Co. A. Bingham, who for 14 years was local manager for the Bell Telephone Co. in some of its largest exchanges, gave up that position & assumed the management of the street railway, preferring a larger field than the telephone offered for his labors. The road has every prospect of being a success financially, & should the Co. decide to go to Port Stanley with an extension of the line, which is a possibility, there is no question that the road will prove a bonanza to the shareholders. Condensed from Canadian Electrical News.

Toronto & Suburban.—The fight between this Co. & the village of Weston ended, & cars commenced running into the village again Nov. 10. Under the settlement the franchise will be renewed & the Co. will extend its tracks to the Post Office, some 1,000 ft.

Suspension Bridge Ry. or the Buffalo & Niagara Falls Ry., which could be accomplished by the construction of a few hundred ft. of track up to Niagara Street & across the Riverway to the tracks of the N. F. P. & R. Ry. The position of the New York State Reservation Commissioners has always been to oppose the construction of track on the reservation lands, but it seems likely that the present composition of the board might not oppose the granting of the right to cross straight over the Riverway, providing the Legislature did not object.

The recently erected steel arch is of more than passing interest. The cliffs where it stands are 1,268 ft. apart, & it is this space the arch occupies. The length of the main arch is 868 ft., & it is connected to the banks by 2 shore spans, one of which is 210 ft. long, the other 190. It is a single-deck bridge, having a width of 49 ft., 23 ft. of the centre being given up to the trolley car tracks. On each side of the railway tracks are carriage-ways & walks, the latter slightly elevated above the floor, which is 192 ft. above the surface of the water. The arch rests on 4 abutments, 2 of which stand at the water's edge on both sides of the river, & are 67 ft. apart. The bridge is the fourth structure erected on the site. The first on the spot where the arch now stands was built in 1868. It was of wood, & in 1887-88 it was rebuilt in steel & made

Toronto Ry.—The gross earnings of this Co. are as follows:—

	1898	1897	Increase.	Decrease
Jan.....	\$86,562.36	\$74,545.55	\$12,016.81	
Feb.....	82,402.19	69,744.61	12,657.58	
Mar.....	92,818.12	78,891.45	13,926.67	
April.....	86,898.83	73,756.38	13,142.45	
May.....	92,670.35	82,461.51	10,208.84	
June.....	94,119.32	91,533.44	2,585.88	
July.....	104,302.92	105,381.64		\$1,078.72
Aug.....	110,300.54	93,224.33	17,076.21	
Sep.....	138,021.74	113,672.44	24,349.30	
Oct.....	99,650.16	86,404.22	13,245.94	

The Co's stock has been advanced in the east on rumors that the dividend would be increased, & the excellent earnings appeared to be a good foundation for the reports. It is now stated that there is no chance of any increase. The Co., it is said, will continue to pay 1% quarterly for a long time to come. It is explained that the Co. has been in operation for a number of years, & that, owing to the severe bicycle competition, up to within a few months ago the Co. had been able to accumulate only a small reserve fund after paying dividends. This year the Co. will have sufficient, after paying dividends, to make an addition to the reserve, which will partly make up for the past several lean years. The amount that should be set aside annually toward a fund to retire the bonds at the expiration of the franchise has not been stated, but it is probably in the neighborhood of \$70,000.

The Manager & Secretary of the Co. were recently charged in the Toronto Police Court with breach of a city by-law. This is the case in which the city seeks to compel the Co. to put vestibules on the rear platforms of cars, the same as those which now protect the motormen. A by-law to the effect that vestibules must be erected on the rear platforms was passed some time ago, but has not been obeyed. Some correspondence passed between the city & the Co., & the latter was notified that if the by-law was not complied with by Nov. 1 action would be taken. When the case was called, J. Bicknell for the Co. contended that the Magistrate had no jurisdiction to deal with the case. Under recent rulings, a Police Court magistrate, he said, could not try summarily such a charge against a corporation. After some argument the case was adjourned to Nov 11., Mr. Bicknell intimating that he would move in the higher court for an order prohibiting the magistrate dealing with the case.

The motion was made, & on Nov. 16 Judge Rose gave judgment on motion by defendant Co. for prohibition to the police magistrate for the city of Toronto to prohibit him from proceeding with the hearing of a charge against the defendant of committing an offence against a by-law of the city of Toronto (passed under R.S.O., ch. 223, sec. 569, subsec. 4) requiring defendants to maintain enclosed vestibules upon the ends of their cars, upon the ground that the defendant being an incorporated company, was not subject to the jurisdiction of the magistrate. A summons was issued against the defendant & served upon its manager & secretary. The offence is not an indictable one, but the procedure (if any) is under the summary convictions clauses of the criminal code. Held, that an incorporated company may be served with a summons within the provisions of the statute, & it is for the magistrate to determine whether there has been a proper service if the corporation do not appear, & if such be the case he may proceed in their absence, & if he awards a penalty it may be enforced by distress. Although some of the provisions of the statute can be enforced only against a person, & not a corporation, the most that can be said is that some of the provisions are applicable to persons only, & others both to persons & corporations. *Regina v. Brennen* (Common Pleas Division, June, 1892); *re Chapman & City of London*, 19 O.R., 33; & *Regina v. Eaton*, 29 O.R., 591, distinguished.

Starey v. Chilworth, etc., Company, 17 Cox, 505, followed. Motion dismissed with costs.

The Co. is building a shed for housing cars. It will be 324 ft. long, 60 ft. wide & 20 ft. high, with corrugated iron siding & having gravel roof.

Toronto & Scarborough.—There is a talk of extending this line about 7 miles from its present terminus near the Hunt Club to the west side of Highland Creek Hill. A survey has been made by J. McDougall, C.E.

Toronto & York Radial Ry. Co.—At the 1898 session of the Ontario Legislature an act was passed incorporating W. D. Matthews, E. F. Clark, M.P., C. H. Ritchie, Q.C., & J. Gunn, of Toronto, & A. Campbell, of Toronto Jct., under this title. The principal feature of the act is that it confers power on the Co. to acquire the franchise, property, etc., of the Toronto & Scarborough Electric Ry. Light & Power Co., The Toronto & Mimico Electric Ry. & Light Co., The Toronto Suburban Street Ry. Co., & the Metropolitan Ry. Co. The capital stock is \$250,000. It is understood that this act was secured in the interest of the Toronto Ry. Co. & it is said the Co. is now considering the building of a system of radial lines, starting from Toronto.

City Engineer Rust, of Toronto, says the most notable development of the present time in municipal engineering is the discarding of the cable car, which is being largely replaced by the underground trolley. Four years ago the cable was laid on Broadway in New York, and when he went through the city recently men were at work putting in conduits for an underground electric trolley. In Washington the overhead trolley never secured entrance, & no difficulty at all is experienced in operating the cars with power from underground conduits. So far as climatic considerations are concerned there is nothing to prevent the underground trolley from being successfully operated in Toronto also. The objection to the overhead wires is of course entirely sentimental. The storage battery is out of the running.

West India Electric Co.—E. H. Haggart, of Kingston, Jamaica, who has recently visited Canada, speaks very favorably as to the prospects for increased trade between Jamaica & the Dominion. In answer to a question regarding the new electric railway system, he said: "I went to Montreal & met a number of the directors there. They were very pleased with the progress that had been made with the work of construction, & were most happy to know that the native labor was turning out so very satisfactorily. In fact, consequent on the good reports, they hoped to take the motormen, conductors, & other necessary employes from the natives. The directors said they were anxious to open up the service at the earliest moment, in fact, they were prepared to run at a loss, by starting earlier than contemplated, so as not to inconvenience the people."

SHIPPING MATTERS.

Iron Shipbuilding in Nova Scotia.

In our last issue we gave a full report of the discussion by the Maritime Board of Trade of the important question of iron shipbuilding in the Maritime Provinces. It is significant that following so close on the discussion the object of the Board appears to be near realization, if a London cablegram of Nov. 5 is to be depended on. The cablegram referred to says:—"British capital for iron shipbuilding in Nova Scotia is soon to be forthcoming. This development is due to the action of a prominent Canadian, who has been promoting

the scheme in London for some time past. There are millions in it. The plant, it is learned, will be established in Cape Breton, where co-operation with the Dominion Coal Co. will be assured. The iron ore is to be found in great quantities on the southern coast of Cape Breton, & this, it is said, will be treated at a smelter erected at Louisburg, C. B. The erection of a shipbuilding plant will follow the development of the ironworks. Experts have been over the ground & their reports are favorable. In this enterprise it is hoped to lay the foundation of a business capable of being expanded like the great establishments at the Clyde & at Belfast."

We have made inquiries about the foregoing from a reliable source in Montreal, without, however, being able to confirm the statements contained in the cablegram. We are informed that the Dominion Coal Co. is looking into the possibilities of the iron business as related to its present coal business, but whether anything will come of it it is impossible to say.

The Halifax Chronicle gives currency to information very similar to that contained in the above-quoted cablegram, & says that H. M. Whitney, of Boston, Mass., President of the Dominion Coal Co., has recently been in Nova Scotia, & with his associates there has had long conferences with Graham Fraser, of New Glasgow, manager of the Nova Scotia Steel Co. Together they inspected the works at Ferrona & Trenton, N.S., & this has given credence to the report that Mr. Whitney is interested in the development of the iron & steel industry of the province. It is, however, said that his recent visit was particularly connected with the further development of the N.S. coal fields.

It is said that a most valuable discovery has been made in Cape Breton, consisting of a big deposit of ore from which specular pig iron or speigel is manufactured. Speigel is largely used in the manufacture of Bessemer steel, & is of great value. Indeed, the Cape Breton deposit is said to be worth \$400 a ton. Samples of the ore were sent to Hamburg to be tested, & the reports sent back show it to be of the best quality. It is placed by Hamburg experts at £80 per ton. There is no information concerning the extent of the deposit discovered, but it is said that it is very large. The discovery was made last fall, & so carefully has it been guarded that, outside of 3 or 4 persons interested, nobody knew anything about it. An expert was taken to Cape Breton ostensibly to look at some gold mines, but really to give an opinion as to the value of this discovery. Since that time the person who discovered the deposit, & 2 or 3 capitalists who were taken in on the ground floor, have been quietly but diligently looking the matter up, & the result is that the deposit is to soon come into the hands of a company now being formed, the people interested in the scheme to establish iron works in Cape Breton being the ones most interested. Whether the specular deposit will be worked by a separate company or in conjunction with the proposed iron works remains yet to be learned. It is said a separate company will develop the property, but it is more than likely that it will form part of the big scheme. If the report of the Hamburg experts is correct & the deposit turns out to be of any reasonable size, there is no doubt a fortune in it for somebody. It is sure to make Cape Breton still more desirable as a location for the great iron industry.

Capt. J. M. Davis, for 30 years master of packets & steamers between Nova Scotia & New York, died at Yarmouth, N.S., recently.

Capt. Michael Nolan, a capable pilot, who had been in the employ of Folger Bros., Kingston, Ont., for 30 years, died recently of cancer of the stomach.

Transfer of Lake Shipping.

In our last issue we gave pretty full particulars in regard to this subject. In referring to it the Marine Record said on Oct. 27: "One of the largest & most interesting enterprises ever conducted on the St. Lawrence River is being carried out by the Manager of the Atlantic Transportation Company, W. S. Besse, of New York. This Co. was organized about a year ago, with a paid-up capital of \$3,000,000, with the intention of engaging on a more elaborate scale than any existing company was doing in the coal-carrying trade of the Atlantic coast. A contract was at once closed with the Chesapeake & Ohio Ry., probably the largest overland coal-carriers on the continent. Within a few weeks a fleet of 40 barges, 8 ocean tugs & 4 steamships had been put into service. This fleet, however, has proved entirely inadequate to the demands of the trade, & it was decided at once to double its size. Accordingly, on Sep. 15 last Mr. Besse left New York for Buffalo, Toledo, Cleveland, Detroit & other lake-port towns to purchase the vessels. Incredible as it may seem, the fact remains that within 30 days he had completed the work of buying 44 vessels, the total carrying capacity of which is 71,000 tons, & by Oct. 3 the first barge was at Cornwall. But having bought the fleet, the task had only begun. The problem was how to get it to its destination, Newport News, Va. Many of the vessels were too long for the locks of the Beauharnois canal, & the only alternative was to run the Cascade rapids. This was not a very promising undertaking in view of the fact that only 3 vessels had made the attempt, & in each case an accident was the result. The pilots assured Mr. Besse that a channel of even 7 feet could not be secured to the Split-rock rapids. Investigation, however, led to the undertaking of the task, & now one-half of the big fleet is safely harbored at Quebec without an accident. The pilots of the line which plied between Montreal & Kingston this summer have been doing the pilots' work through the Cascades, and raft-pilots have been running the Split-rock rapids. Four tugs have been engaged in the work, the Chieftain & Rival, working in the rapids, & the Reginald & Island Wanderer towing between Cornwall & Ogdensburg. If the same good fortune & weather that has attended the enterprise so far are continued, Mr. Besse thinks that \$60,000 will land the fleet at the Gulf by Nov. 1."

In referring to the same matter the Marine Review said on Nov. 4: "Present indications are that the Atlantic Transportation Co. will not be able to get all of the vessels to the coast this season. The Co. had a separate insurance arrangement covering the voyage of the boats from Montreal to New York, with the stipulation that all the vessels were to leave Montreal by a certain time. The departure of some of the barges has been delayed beyond this time, & it is said the insurance companies have refused to accept further risks. This will in all probability necessitate the wintering of the boats at Kingston. The hitch will not, of course, in any way effect the interests of the vesselmen who have made charters to the Atlantic Co.—that is, the boats will in no case be thrown back on their hands, although an effort may be made to induce the owners of the vessels which will be thus delayed to grant an extension & have the charters date from next spring instead of from this autumn. The lake owners who chartered vessels to the Atlantic Co. received checks this week covering the second month of the charter. In this connection it is stated that the steamer Gettysburg, chartered from Alger, Smith & Co., of Detroit, by the Atlantic Transportation Co., will not go to the coast by reason of an inability to go over the rapids. The vessels taken to the coast by the Atlantic Co. are all insured from the time of their de-

livery to the company at lake ports, but it is understood that the underwriters do not agree to bear losses sustained in running the rapids. At the outset the Atlantic people, after conferring with their contractor, fixed the maximum draught at 7 ft. They were so anxious to secure the Gettysburg, however, that an exception was made in her case. She was allowed an additional 4 ins., but it was found impossible to get her up even to that draught, although it is understood \$2,500 was spent in shifting her boilers in the hope that it might be accomplished."

Another company has entered the field to secure lake vessels for the Atlantic coast trade. The newcomer is the Manhattan Steamship Co., of New York. In a letter to the Review, the General Manager of the Company says: "We have about concluded negotiations for 5 steam barges which we propose taking to Philadelphia, where alterations & changes will be made fitting them for coast-wise work." The inference is left that the vessels have been purchased outright. The Manhattan Co. has not made public the names of the vessels for which negotiations are being carried on, but it is understood that 2 of the number are the steamers Linden & H. E. Runnels, owned by the Jenks Ship Building Co., of Port Huron, Mich. The H. E. Runnels, which was built in 1893, is 182 ft. keel by 35 ft. beam. She has a capacity of about 1,300 or 1,400 tons of coal, & an insurance valuation of \$45,000. The Linden was built in 1895 & is 206 ft. keel by 35 ft. beam. She has a carrying capacity of about 1,400 to 1,500 tons, & an insurance valuation of \$62,500. Both are wooden vessels.

Richelieu & Ontario Navigation Co.

There was a story on the street in Montreal lately that a Western syndicate, with headquarters in Chicago, was negotiating for the purchase of the R. & O. N. Co.'s fleet. The story is not true as far as a possibility of purchase is concerned, but it is said to be altogether likely that within a very short time U.S. capital, to the extent of about \$1,000,000, will purchase an interest in the Co. The desire of the present shareholders is that new capital should be secured with as little delay as possible. Some large sums must be spent at once in bettering & adding to the property. For instance, another steamer, at a cost of \$250,000, is proposed to be built, & the Co. wants to erect hotels at Tadouac, Murray Bay & other leading points touched by its Co. steamers. It is expected that the deal will soon be consummated. The Company's stock has been declining lately.

The General Manager says the business of the Co. this year has been excellent, considering the cutting of rates by railway & steamboat companies.

The Co. has commenced paying a semi-annual dividend of \$53,000, which is at the rate of 6% a year.

The Co.'s steamers in service below Montreal will continue running as long as weather permits, when they will be laid up at Sorel for a general overhauling.

The Co. is contemplating an important change in its passenger service next season. With the increased spread of its western service by the introduction of the new vessels, the City of Toronto & the proposed City of Kingston, it will be able to call at a U.S. port. Charlotte, the port of Rochester, is the one chosen. It is almost opposite Cobourg.

The St. Lawrence River steamboat Hamilton was formerly the Magnet, built in 1847. The Caspian was called the Passport when she was launched, the same year. The Algerian is the old Kingston, which burned at Chippewa Point, & when rebuilt was called Bavarian. She burned a second time, & when ready for service again was given her

present name. The old Grecian was lost while going through Split Rock rapids.

Sault Ste. Marie Canal Traffic.

Following is a report of freight & passenger traffic to & from Lake Superior in Oct., including statistics of the Canadian & U.S. canals at Sault Ste. Marie, Ont., & Mich., taken from the Marine Record:

EAST BOUND.			
Items.	U. S. Canal.	Canadian Canal.	Total.
Copper, net tons.....	16,996	246	17,242
Grain, bushels.....	4,503,828	82,107	4,585,935
Building stone, net tons.....			
Flour, barrels.....	1,496,909	75,250	1,572,159
Iron ore, net tons.....	1,253,898	146,063	1,399,961
Iron, pig, net tons.....	6,102		6,102
Lumber, M. ft. B. M.....	136,348	2,655	139,003
Silver ore, net tons.....			
Wheat, bushels.....	13,200,579	1,890,166	15,090,745
Unclass'd freight, net tons.....	22,782	1,696	24,478
Passengers, number.....	705	476	1,181
WEST BOUND.			
Items.	U. S. Canal.	Canadian Canal.	Total.
Coal (hard) net tons.....	80,166	5,200	85,366
Coal (soft) net tons.....	261,809	38,115	299,924
Flour barrels.....			
Grain, bushels.....	900	6,000	6,900
Manufact'd iron, net tons.....	22,977		22,977
Salt, barrels.....	29,926		29,926
Unclass'd freight, net tons.....	54,570	4,846	59,416
Passengers, number.....	497	423	920
East bound freight, net tons.....			2,405,217
West bound freight, net tons.....			471,976
Total.....			2,877,193
Total craft, United States.....			1,974
Total craft, Canadian.....			315
Total.....			2,289
Total registered tonnage, United States.....			1,385,762
Total registered tonnage, Canadian.....			262,728
Total.....			2,648,490

Recent Dominion Appointments.

The following appointments have been made by Dominion Order in Council:

Harbor Masters—W. Cochrane, for Port Greville, N.S., vice G. Hatfield, deceased; E. Cohoon, for Port Medway, N.S., vice E. Dolliver, deceased; Capt. J. M. Le Cain, for Clementport, N.S., vice T. Tracey, deceased.

W. Richardson has been appointed a member of the Pilotage Authority for Sydney district, vice J. Rudderham, resigned. C. C. Hamilton has been appointed a member of the Pilotage Authority for Shediac district, N.B., vice H. H. Schaffer, resigned.

J. C. Scrimgeour has been appointed measuring surveyor of shipping for Kings County, P.E.I., vice S. McDonald, deceased.

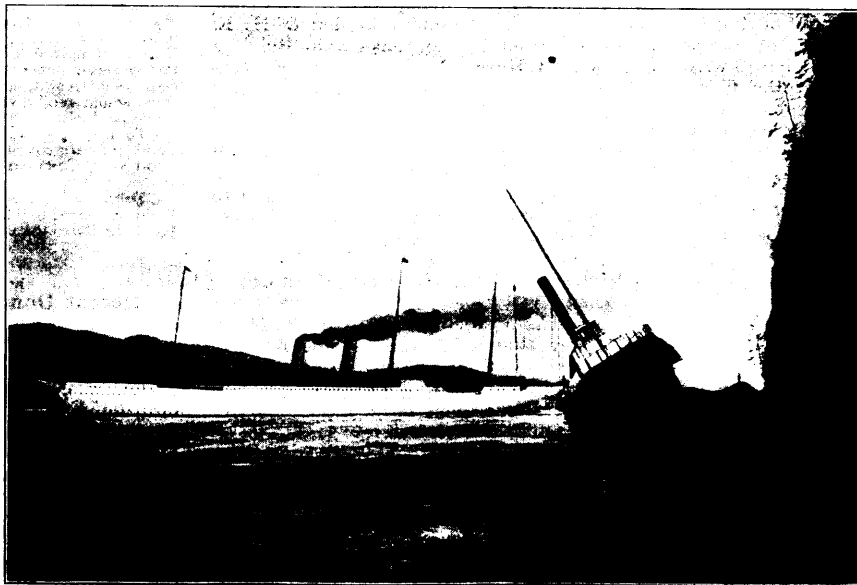
Atlantic Winter Service.—The contract between the Dominion Government & the Allan & Dominion steamship lines for the winter service from St. John to Liverpool, was signed early in Nov. The first boat left Liverpool Nov. 12. The first sailings from St. John, N.B., will be on Nov. 30. For the first 5 weeks the sailings will be weekly from Liverpool on each Saturday, after that they will be on Thursdays. From this side the sailings will be on Wednesdays, unless other arrangements are made later on. The boats to be employed are the Parisian, Numidian, Californian, Labrador, Vancouver & Scotsman.

The Dominion Government has allotted \$1,000, the balance of the subsidy, to the Canadian Steamship Co. for a steamship to call at Charlottetown, P.E.I., on or about Dec. 15, & deliver cargo from Great Britain, taking in cargo for London & Liverpool, which will be delivered via Milford Haven. It is said that advices have been received in Montreal that as a result of representations made by C. N. Armstrong as to the proposed steamship line from the Baie des Chaleurs to England, the harbour authorities of Milford Haven are building a wharf & work houses for the accommodation of the vessels & merchandise.

The Pioneer Steamer on the Pacific.

Over three score years have passed since the Hudson's Bay Co. steamer *Beaver* floated down the Thames. She was the first European steamer to round Cape Horn, & was the pioneer steamer of the Pacific ocean, the passage from London, Eng., to Astoria, Ore., consuming 163 days. The *Beaver* was 101 ft. long, 20 ft. broad, & 11½ ft. deep, the tonnage being 109½. The boiler & the 2 side lever engines of 35 h.p. each were made by Boulton & Watts, at Birmingham. The engines cost £4,500, & weighed 52 tons. The vessel was built in the most substantial manner, of live oak & greenheart, the timbers being held together by copper bolts. The *Beaver* reached Vancouver Island in 1835, was used as a fur-trading vessel by the Co., & on one of these trips coal was discovered on Vancouver Island. In 1849, during the gold excitement, many miners took passage on this little black steamer. In steaming out of Burrard Inlet in the fall of 1888, she struck a rock, & wrapped in a sheet of troubled waters, with head resting on a huge, barnacle-clad boulder, the pioneer Pacific steamer passed into history. Unsuccessful efforts were made to float her & she remained on the rocks nearly 4 years. An attempt was made to take her to the Chicago World's Fair, but was abandoned, owing to her damaged condition & cost of transportation.

The illustration on this page, reproduced from a photograph taken some 4 or 5 years ago, & copyrighted by Bailey Bros., Vancouver, shows an interesting feature of the early and later navigation of the Pacific. To the left is the magnificent *Royal Mail* steamship, *Empress of India*, of the C. P. R. line from Vancouver to China & Japan. To the right is the steamer *Beaver* on the rocks as described above.



EMPERESS OF INDIA.

THE OLD AND THE NEW.
Copyrighted by Bailey Bros., Vancouver.

BEAVER.

Capacity of the Welland Canal.

The departure of the fleet of vessels chartered by the Atlantic Transportation Co. for coast service, & the frequent discussion of the opportunities for trade that will be opened by the enlargement of the locks of the St. Lawrence canals to Welland size, has induced much inquiry on the part of men identified with shipping interests as to the extreme dimensions of vessels that may be passed through the Welland. This inquiry has, of course, been increased in view of the agitation for abolition of Welland canal tolls, & in view also of the fact that the locks of all canals under construction in the St. Lawrence will be when completed of similar size to those in the Welland. It is understood, of course, that when the work of enlarging the locks of St. Lawrence canals to dimensions of the Welland is completed there will be none of the difficulties now encountered in having vessels destined for the seaboard run the rapids of the St. Lawrence river.

The Welland locks are 270 ft. long from mitres of the gates, & 45 ft. wide, but this does not convey an adequate idea of the largest size of vessel that may lock through, as that is dependent on the model of the bow

& stern of the vessel. A vessel that is sharp forward at the deck line & narrow at the stern can lock several feet longer than one that is full forward or has a broad stern. Moreover, a vessel with a narrow beam can lock longer than one that is nearly full beam of the locks. The lock gates mitre at an angle of 90 degrees, & any designer or builder of vessels can, of course, upon inspection of a drawing of the ship, tell at once whether she will or will not lock through.

According to information furnished by Carter Bros., tug & vessel owners, of Port Colborne, Ont., the steamer *Aragon*, now on her way down the St. Lawrence, is about the largest vessel that can pass through the Welland. The *Aragon* is 247 ft. 7 in. keel, & 42 ft. 6 in. beam, the various registers not giving her length over all. The steamer *Colonial* is about as large a vessel of that kind of model as can pass the locks. Her dimensions are 244 ft. 5 in. keel, & 36 ft. 3 in. beam, the length over all, as nearly as could be measured at the canal, being 258 ft. 9 in. The overhang aft on the *Colonial* is probably longer than

up through the canal, the stern may be swung one way & then the other in order to permit of the gates being closed. As an illustration it may be stated that whereas a boat might lock 260 ft. over all if only 33 ft. beam, a vessel with the same type of hull could not lock over 255 ft. if of 43 ft. beam.

A wooden vessel that is of very nearly maximum lock dimensions is the *Black Rock*. She is of exactly the dimensions referred to above—255 ft. over all & 43 ft. beam. Her Captain states, however, that if his vessel was not so full forward & was narrower on the quarters aft she could lock a little longer, as in locking through now the gates strike the bluff of her bows in opening & strike her quarters aft in closing. The *Black Rock* carries 68,000 bus. of wheat on a draught of 14 ft. of water.

In this connection interest attaches to the dimensions of the steel steamers belonging to R. R. Rhodes, of Cleveland. The *Minneapolis* & *St. Paul*, which are sister ships & 238 ft. keel by 42 ft. beam, were built with especial reference to the dimensions of the Welland locks, it being the intention of their owner to place them in the Montreal grain trade as soon as the St. Lawrence canals are completed. Mr. Rhodes recently sent his steamer, the *R. R. Rhodes*, to the Welland canal for purposes of measurement, & it was found that, although the vessel is 246 ft. keel by 40 ft. beam, she can be locked through. A comparison of dimensions will show that the greater length is offset by the narrower beam in accordance with the theory above outlined.

It will be understood, of course, that vessels passing through the Welland cannot all go on down to the seaboard. Only those of very light draft, not more than 7½ ft. can run the rapids of the St. Lawrence.—Marine

Review.

Through the Lachine Rapids.

The steamer was entering the most dangerous part of the far-famed Lachine Rapids of the St. Lawrence. The forward deck was crowded with passengers, & all eyes were fixed on the famous Indian pilot, on whose skill & nerve their lives depended. Immovable at his post on the high pilot tower he stood, his sinewy brown hands firmly grasping the spokes of the wheel, while his piercing eyes darted glances now here, now there, over the surface of the river, as though seeking the most advantageous point from which to commence the descent. Now & then one could catch a glimpse of a plain Hibernian countenance in a window below where the Indian stood.

The steamer plunged into roaring waves, which shook her from stem to stern. Great black & glistening rocks grinned at the staunch vessel from the boiling waters. Strong men shuddered as they looked at the ragged rocks & raging river, & in their hearts thanked God that they were safe in the hands of the famous pilot. Women stared fascinated at the water, & then turned their eyes on the Indian, clasping their hands together with all their strength, as though

that of the *Aragon*, which enables the *Aragon* to lock with a longer keel & more beam. In addition, the *Aragon* being a steel boat, has a narrow stem & stern & is not bluff forward.

Another vessel that just about reaches the limit of the Welland locks is the *W. A. Haskell*, owned by the Ogdensburg Transportation Co. Her keel measurement is 242 ft. 5 ins., & her beam 37 ft. The Ogdensburg Co. built the *Haskell* first, with the idea of taking full advantage of the Welland locks, but when their other vessels, the *Governor Smith*, *A. McVittie*, *J. R. Langdon* & *Henry R. James* were built, they were made only 240 ft. keel & 42 ft. beam. It will thus be seen that whereas the beam was increased 5 ft., the keel length was shortened 2 ft. 7 ins. The overhang aft of the last mentioned vessel is practically the same as that of the *W. A. Haskell*.

When a vessel is a close fit in length more or less delay is encountered in the operation of locking. It will thus be readily understood that the reason why a steamer of narrow beam can lock longer than one of greater beam, or nearly full width of the locks, is found in the fact that the vessel of less beam may be swung to one side of the lock & one gate opened, & then to the other side while the other gate is being opened. In a similar manner, coming

they would sustain the effort which his mighty arms were exerting to hold the vessel in her course. And well did he merit their confidence—now spinning the wheel like lightning to escape a dangerous rock, now holding it firm with all his vast strength to prevent the vessel's swerving, now leaning far from his station to scan the water with hawk-like eyes for hidden dangers. Nothing could appal him or shake his iron nerve, & barely grazing a dangerous crag he shot the steamer into calm water.

Once more had a shipload of souls been safely brought through the rapids by the intrepid savage. Few of the women restrained their tears, & men looked at their wives & little children, shuddering to think of the dangers they had passed, & then turned with swelling gratitude to the Indian. A mighty cheer burst from their throats, women threw him flowers, a purse fell solidly at his feet, & a subscription list was rapidly circulated.

Amid all this the stern child of primeval race was the only one apparently unmoved. His features, fixed in the traditional composure of his race, betrayed no emotion, & his steady & piercing glance did not regard the cheering crowd. In the room in the pilot tower below where he stood, the plain Irishman, who had been steering the steamer all the time, took a chew of tobacco. The iron-nerved savage performed with a dummy wheel on top of the tower, so the tourists would get their full money's worth of thrill.—New York Times.

Notices to Mariners.

The Dominion Department of Marine has issued the following notices since those enumerated in our last issue:—

No. 63, Oct. 13, Ontario.—1. Light house on Aylmer Island. 2. Reefs in the east end of Lake Superior.

No. 64, Oct. 15, British Columbia.—1. Light house & fog bell on Prospect Point. 2. Light house on Egg Island. 3. Light house on Ivory Island. 4. Denny Rock dangerous.

No. 65, Oct. 17, New Brunswick.—Improvement in light house on Sand Point.

No. 66, Oct. 20, Nova Scotia, buoyage on Atlantic coast.—1. Buoy on Middle Ground Shoal, Halifax. 2. Removal of southwest breaker bell buoy to Port Medway fairway. 3. Conical buoy on southwest breaker. 4. Can buoy off Neil Point.

No. 67, Oct. 19, Ontario.—1. Light house removed from Hugh Rock to Carling Rock. 2. Rocks in Parry Sound Channel.

No. 68, Oct. 22, Ontario.—1. Additional buoys in Detroit River. 2. Buoys in South Bay entrance. 3. Dangerous wreck in River St. Mary.

No. 69, Oct. 22, Ontario.—1. Temporary range light at Port Dalhousie. 2. Wreck on Bay of Quinte.

No. 70, Nov. 2, British Columbia.—Aids to navigation in Victoria Harbor.

No. 71, Oct. 31, Quebec. Improvements in ship channel, River St. Lawrence.—1. Barre a Boulard cut completed & buoyed. 2. Removal of patches & rearrangement of buoys. 3. Widening of channel opposite Montreal.

No. 72, Nov. 3, Quebec.—St. Emelie Range lights.

UNITED STATES MARINE NOTICES.

The Notice to Mariners for the Great Lakes, issued by the U. S. Hydrographic Office, Oct. 15, contains the following among others:—

158. St. Mary's River, Lake Superior entrance.—Shoals between Gros Cap & Point Iroquois; establishment of buoy.

159. St. Mary's River, upper end, Point aux Pins.—Foundering of the lighter Monitor, danger to navigation.

165. Lake Erie, mouth of Detroit River, Bar Point.—Establishment of buoys.

B. C. Freight & Shipping Report.

R. P. Rithet & Co. say during the past month there has been some enquiry for vessels to take general cargo, but practically no demand for grain carriers either at San Francisco or in the north. In the latter quarter there has been an unusually fine crop, but freights have failed to respond, partly because of the firmness with which grain is held, & partly, no doubt, owing to the want of encouragement from consuming markets.

In the lumber market rates have been maintained fairly well & quotations are either unchanged or only slightly down from last month. There is reported to be a very well-defined shortage of logs, shared by all exporting mills, & this is having considerable effect both on the freedom of shipments & the prices of finished lumber.

The David Morgan, of the prospective salmon fleet, having been given up for lost, has been replaced by the Celtic Race, of which the charter is now announced at a lump sum.

We quote freights as follows:—Grain—San Francisco to Cork f.o., 23s. 9d., nominal; Portland to Cork f.o., 32s. 6d., nominal; Tacoma to Cork f.o., 30s., nominal. Lumber—British Columbia or Puget Sound to Sydney, 37s. 6d. to 38s. 9d.; Melbourne or Adelaide, 47s. 6d. to 48s. 9d.; Port Pirie, 46s. 3d. to 47s. 6d.; Fremantle, 57s. 6d. to 60s.; Yokohama, 42s. 6d. to 45s.; Shanghai, 47s. 6d. to 48s. 9d.; Tientsin, nominal; Valparaiso f.o., 40s. to 42s. 6d.; U.K. or Continent, 65s. to 67s. 6d.

In British Columbia Waters.

C. W. Bush & D. G. Kurts have registered a partnership as the Balfour Steam Navigation Co., at Kokanee Creek.

It is reported that the Fijian Government has decided to withdraw its yearly subsidy of £1,500 from the Canadian-Australian steamship service. If so, the boats will not call at Suva.

On Oct. 20 35 vessels of over 1,000 net tonnage each were in B.C. ports. Of this number, 16, representing over 36,000 tonnage, were loading or discharging cargoes at Vancouver.

The C.P.R. Co.'s steamer Moyie was launched at Nelson, Oct. 22. She will ply on Kootenay Lake between Kuskanook, the temporary terminus of the Crow's Nest Pass Ry., & Nelson.

Still more boats will be placed on the Vancouver-San Francisco run. The Pacific Coast Steamship Co. has chartered the steamers Laurada & South Portland from McCalden Bros., of New York, & will run them in connection with the Queen, Umatilla & Walla Walla.

The new trade opened up by the annexation of the Hawaiian Islands by the U.S. is not to be monopolized by U.S. shipping. The steamer Garonne, which has just been placed on the Puget Sound-Honolulu route will call regularly at Vancouver for freight, a good part of which will be carried over the C.P.R.

The B.C. Marine Railway Co. has bought a site in the east end of Vancouver, & it is said that work will soon be started on a marine railway plant there. W. F. Bullen, Manager of the Co.'s Esquimalt plant, has been looking over a number of plants in the U.S. to gather ideas. The Esquimalt plant has all the work that can be handled there.

The Government steamer has lately replaced the lighthouse beacon on the sandhead, the north beacon on Sturgeon bank, Spanish Bank beacon & the east beacon, first narrows Burrard Inlet. The beacons, with the exception of the north beacon on Sturgeon bank, which is 3 cables south of its old position, are in the positions shown on the present Admiralty charts.

Local shipping suffered a severe loss by 3 steamers being destroyed at the New Westminster fire. This was followed by the wreck & almost total loss of the steamer Boscowitz, & the wreck, on the northern coast, of the steamer Brixham, engaged in the Klondike trade. She was an iron-built steamer of 396 tons, owned by the Boston & Alaska Steamship Co., operating from Seattle, but was well-known at Vancouver, as she took on the supplies for the Northwest Mounted Police there.

On Oct. 21 the C.P.R. steamer Athenian sailed from Vancouver for Vladivostok on her initial trip. The steamer Tartar followed shortly after, & the steamer Selkirk is under charter to load flour at Tacoma to be taken to Vancouver port & transhipped to Vladivostok ex the R.M.S. Empress of Japan. Several tramp steamers have also recently loaded lumber cargoes at Vancouver for the Russian port. As stated in our last issue, the Tartar & Athenian are going in the C.P.R. Co.'s regular Pacific trade between Vancouver & China & Japan.

The Customs returns show that 2,732 sea-going vessels called at Vancouver during the year ended June 30 last. The value of goods that passed through the city, on transit to & from foreign ports, was \$10,232,716. To this should be added some \$5,000,000 for the value of manufactured articles & products of Canada arriving at & shipped from Vancouver. The total revenue collected at the port for the fiscal year was \$667,842.56. The statement of the imports consumption shows a total value of \$2,983,291, while the exports, under their various heads, are as follows: Mining, \$95,255; fisheries, \$347,644; forest, \$251,652; animal products, \$45,326; agricultural products, \$62,217; manufactures, \$176,102; miscellaneous, \$29,449; coin & bullion, \$106,555; grand total, \$1,114,200.

For some time it has been apparent to the management of the Union Steamship Co. that a larger steamer with greater passenger accommodation was needed for the northern run from Vancouver, 150 miles up the coast as far as Port Neville, now handled by the steamer Comox. This boat is a business-like little steamer & has done good service in the past, but the route has become too much for it, & the Co. has decided to procure a new boat. Just what kind of boat is needed is a question that will require serious consideration. The Cutch, which goes to Skagway in a week or two, draws rather too much water to go into all the coves & bays that make the route handy for the settlers. A flat-bottomed vessel, something like the Joan, is the kind of boat that will probably be secured. Whether a new one will be built or another bought is also an unsettled question. It is intended that she will be fitted up in good style, as far as passenger accommodation is concerned, & will be fast enough to make 3 trips a week without trouble, so that the service will be vastly improved.—Vancouver World.

Yukon Navigation Matters.

A Washington, D.C., dispatch says:—The discovery of 2,500 miles of additional U.S. territory on the Alaskan coast, & of a new channel for Yukon-bound vessels, which will minimize distance, time & danger, is officially reported to Superintendent Pritchett, of the U.S. Coast & Geodetic Survey, by J. F. Pratt, the assistant in charge of the expedition which has been working in those waters. What the expansion of the mileage of the Alaskan territory is due to is not known. There is a possibility of constant outward growth of the land since the first charts were made, but the better opinion is that it is due to previous inaccurate charts, the present being the first regular & reliable survey of the region.

The finding of the new channel will effect a saving of about 400 or 500 miles on reaching the Yukon. At present vessels destined for the Yukon region have to proceed up the ocean outside the long bar some 25 miles off from the coast up to St. Michael's, & there tranship to small boats, which have to creep along the coast down to the Aphoon channel, 10 miles or so below St. Michael's. This channel carries the water only 2 ft. over the bar at low tide.

The new channel just found is the Kualivak, which will carry 8 ft. over the bar at low water, &, according to present expectations, will permit ships of moderate draught to proceed directly into the Yukon from the south, & then continue up the river 400 or 500 miles to a safe landing before transshipping to the smaller boats, which will go the remainder of the way up the river.

The 3 steamers Governor Pingree, Philip P. Lord, & New York, of the Boston Alaska Co., which had the contract for carrying a portion of the supplies for the Yukon force, reached Dawson, after many delays, Sep. 25.

Ice was making on the Yukon & there was thin ice at Dutch Harbor when the Portland sailed from St. Michael's, Oct. 11. At least 12 river steamers are stuck on sandbars in the Yukon, & all will probably be lost. The Dawson City is a total wreck. The Herman & Tacoma are aground, & the other boats are in such perilous positions that when the ice breaks up they may go to pieces.

Two Stikine River boats, the Skagit Chief & the Glenora, owned by the Tacoma & Port Orchard Navigation Co., have been sold by auction. Prior to last Spring, & for 10 years past, the Skagit Chief was a familiar member of the fleet of steamers plying between Tacoma & the Sound ports, the steamer being on the Tacoma-Seattle run for years. The Glenora is a new vessel, having been built & launched early in the year. Both vessels were towed through the inland passage & placed on the Fort Wrangel-Glenora run. Both made several successful trips after arriving in the North, & then came the Stikine route "slump." Liens amounting to nearly \$9,000 for labor, material & provisions existed against the 2 steamers. The creditors grew impatient. No relief was offered. At last the matter was taken into the U.S. courts & judgments received. On Oct. 13 Marshal Grant sold the 2 steamers at auction in Tacoma. The Skagit Chief was bid in by L. R. Manning at \$2,600; the Glenora by S. Barber for \$3,975.

The Lake Bennett & Klondike Navigation Co. announces that it will not cut its rates. An official recently said:—"Cheap fares mean cheaper living—canned meat & canned fruit on the bill-of-fare— & that is something we won't have. We will feed our passengers with the best that can be bought—everything that is in season—and we will expect passengers to pay a living rate. This rule we will stand by, & when our service begins to be known, then I believe we will be patronized."

The Lake Bennett & Klondike Navigation Co.'s steamer Ameer is to be overhauled at Victoria, so as to provide greater passenger accommodation.

It is said that the North American Transportation & Trading Co., a U.S. concern, has decided to put a fleet of steamers on the Upper Yukon, to run from Dawson to Bennett. An agent of the Co. has been surveying the river.

It is said the Manauense & 2 other steamers will be put on between Vancouver & San Francisco, the Manauense to be the passenger boat & the others principally for freight. The same owners talk of putting on 2 steamers between Vancouver & Skagway, & next spring a river boat on Lake Bennett & another on the Yukon, to run in connection with the steamer James Domville, which Capt. Ferris

says was not nearly as badly injured on the Yukon as was originally reported, & will be able to go to work again when the river opens next year. It is said the owners will ask the city of Vancouver for assistance in the form of a guarantee of 3% on debenture stock & the free use of the city wharf if one is built.

The Maritime Provinces.

J. B. Coyle, Manager of the International Steamship Co., which runs boats between Boston & St. John, N.B., died recently at his home, Portland, Me., aged 57.

The marine slip at Lunenburg, N.S., which opened for work last April, has proved a successful enterprise. It cost about \$19,000, & the earnings so far this season have been upward of \$2,000. Its capacity is 600 tons.

The Steamship Pharsalia Co. has been incorporated under the New Brunswick Joint Stock Co.'s Act, with a capital of \$200,000, for the purpose of owning & sailing a British steamer, the Pharsalia. The incorporators are: R. & P. W. Thomson, Rothesay, N.B.; J. H. Thomson; W. W. Turnbull; J. K. Dunlop, St. John, N.B.; & C. De W. Smith, Windsor, N.S.

The St. John, N.B., city council, has formally adopted a series of resolutions pledging the city to give a free site, exemption from taxation, & a bonus of \$2,500 a year for 40 years, for the proposed graving dock, which is to be of granite & not less than 800 ft. long, with all needful equipment. The grant is subject to the granting of aid by the imperial, federal & provincial governments, the formation of a company satisfactory to the council & the council's approval of the site chosen. The work is to be begun within a year from Nov. 1, & to be completed, if possible, within 5 years, but surely within 10 years.

A. D. Provand, M.P., for Glasgow, Scotland, was in Ottawa recently in the interests of the shareholders of the Chignecto Ship Railway Co. In January last the Government refused to recommend Parliament to grant an extension of time in order that the Co. might earn the Federal subsidy of \$150,000 a year for 25 years. Mr. Provand wants the reinstatement of the Co. in a position that it may secure the annual subsidy, or, failing that, compensation for the capital expended in the enterprise. The Co. considers if this request be not granted that it will, in effect, mean the loss of about £750,000 of British capital expended in Canada.

The Dominion Government has been advised that hereafter navigation between ports of the U. S. & Cuba & Porto Rico will be confined to the vessels of the U.S., or, in other words, that the U.S. coasting laws have been extended to these new possessions of the Republic. The U.S. Customs tariff also takes effect in Cuba & Porto Rico immediately, so that Maritime Province fish will have to face the disadvantages of that tariff. The possession of these two islands by the U.S. means a great deal for Nova Scotia. Last year Canada exported to the Spanish West Indies 215,271 cwt. of salt codfish, valued at \$785,748, & the total trade in fish from Canada to these new possessions of the U.S. is valued at nearly \$1,000,000.

A 1,700 ton steamer that travels 1,500 miles a week on a regular route, with 4 ports of call, & carries an average of 17,000 passengers & 55,000 thousand tons of freight a year, must be popular. When it is added that such a ship has been covering this route for the past 10 years & has never met with an accident nor had a claim for a pound of freight damaged, it follows that she is surely one of the best managed & therefore one of the most successful craft in operation on any line. The ship that holds this record is the Halifax, of the Canada-Atlantic & Plant S. S. Co.,

which plies weekly between Boston, Halifax, Hawkesbury & Charlottetown during the summer, & between Boston & Halifax only during the winter months, when Charlottetown is closed to navigation. The Halifax was built especially for this service under superintendence of Capt. S. R. Hill, who commanded her for several years & is now chief inspector of steam vessels under the Canadian government. After 10 years service she is even better than when she was new, can travel faster, is thoroughly as staunch, & so steady that no vibration is felt in any part of her, even when steaming full speed in a rough sea. She makes the run of 389 knots from wharf to wharf, Boston to Halifax, in from 28 to 31 hours, according to the weather, & always sails on schedule time, no matter what the weather.—Marine Journal.

Ontario & the Great Lakes.

The str. Ontario, of the Beatty Line, has been purchased by Capt. John Cornwall & others, of Port Huron, to be converted into a lumber carrier.

It is said the Hamilton Steamboat Co. is negotiating for the purchase of Oaklands, across Hamilton Bay, with a view to making it a summer pleasure resort.

Hiram Walker & Son, Walkerville, have purchased from the U.S. Government the old revenue cutter Andrew Johnson, which was recently used by the Cleveland volunteers.

The new Welland canal was used for the first time on Sunday this season on Oct. 30, when the steambarge Geo. Spencer, of Cleveland, O., broke 3 of the gates of lock No. 8.

Complaint is made that there are only 12 ft. of water in the Eastern Channel of Toronto Harbor, instead of 16 ft., & that the harbor is simply closed to vessels drawing more than 10 or 11 ft. of water.

The Government dredge, tug & scows have finished their work for this season in Kingston Harbor. They have been at work since May 18, & have made a 200 ft. channel near the M. T. Co's elevator.

The Montreal Transportation Co. loaded the first lot of new Manitoba wheat on one of its steamers at Fort William Oct. 3, comprising about 100,000 bushels. The rate quoted from Fort William to Montreal was 5¼c. a bushel.

The Toronto city officials have deposited in the Public Works Department at Ottawa plans showing the proposed chain ferry over the western channel at the Queen's Wharf, Toronto, with a description of the proposed site.

The Montreal Transportation Company's schooner Kildonan, which went ashore on Nicholson's Island recently, has been released. The Hector is still hard aground, & great difficulty will be experienced in releasing her.

The Donnelly Wrecking & Salvage Co., Kingston, which raised the Rosedale a short time ago, have a contract to raise the barge Puritan, loaded with 200 tons of iron ore, sunk in the channel abreast of Captain John's Island, Bay of Quinte.

An Ottawa despatch says E. F. Johnson, of L'Original, Ont., has organized a company with U.S. capital, & that the steamers Empire State & St. Lawrence will be secured & placed on the route between Ottawa & Montreal next season in opposition to the Ottawa River Navigation Co.

The Star Cole line Co. (Red & White Star line) whose boats run between Detroit & Port Huron, Mich., are about to build a boat to carry 4,500 people. She will be a duplicate of the steamer New York running on the Hudson river between New York & Albany, & will ply on the Detroit river.

M. R. Davis, Kingston, Ont., will, it is said, superintend for Capt. D. Noonan the building of a twin screw steamer, costing about \$20,000, having 30 staterooms, & designed to carry about 300 passengers. It will be built at Westport, Ont., & is intended for service on the Rideau canal.

Capt. C. Lewis has decided to have another steamer built for the Rat Portage-Rainy River line, to accommodate about 40 cabin passengers. There was a large business on this route during the past season. Some 50 small steamers now navigate the Lake of the Woods, being largely employed in the mining trade.

Capt. W. L. Visger, of Alexandria Bay, has been suspended for 3 months by the U.S. Government inspector for disobeying pilotage rules. He was racing with the New Island Wanderer, & would not give the latter the latter the right of way, to which she was entitled, & an accident was averted by the Wanderer coming to a sudden stop.

The steamer Rosedale, that went ashore last year near Kingston, & was abandoned by her owners to the insurance companies, & which was afterwards sold to the Edwardsburg Starch Company, has been purchased by Haggarty & Crangle, Toronto, for, it is said, \$55,000. She is at present engaged carrying grain from Chicago to Kingston.

The str. North King has finished her season's work, showing a remarkable record. During the season she covered over 33,000 miles, with an average speed of 14 miles an hour, without any delays, or the slightest damage to the boat or machinery. The North King was on the Charlotte-Cobourg route from Kingston during the early part of the year.

The returns of traffic through the Sault Ste. Marie canal for Oct. show a further falling off—315 vessels passing through the Canadian lock, as against 404 in Oct. last year. Up to Nov. 1 3,363 vessels had passed through, a decrease of 510, & a decrease in vessel tonnage of 1,000,000 tons, & of freight carried of 1,750,000. The total freight was 2,657,585 tons.

The Great Northern Transit Co. has had 2 steamers burned recently. On Nov. 3 fire broke out in the G.T.R. freight sheds at Collingwood, & spread to the steamer Pacific moored alongside. She was valued at \$55,000, & insured for \$25,000. On Nov. 7, while the steamer Northern Belle was near Byng Inlet on the return trip from Collingwood to Killarney, fire broke out in the hold, & the crew & passengers had to take to the boats.

Port Stanley harbor was inspected recently by the Minister of Public Works, & to members of the London & St. Thomas councils & boards of trade, who joined him on his visit to the port, he expressed his surprise at the condition of the harbor, & intimated that he would urge upon his colleagues the need of putting it in first-class shape. A cut to change the outlet of Kettle Creek was suggested by the local men as the desideratum.

The Canadian schooner Edward Blake, on which McGarigle made his escape from Chicago a few years ago, lies a charred wreck on Duke Island, south of Manitoulin Island. The Blake was owned by Thomas Mills, a banker of Kingston. She went ashore on the island & caught fire while there, & became a total loss. She was in charge of Capt. John Sidney, of Belleville, & valued at \$3,000. She had no cargo.—Marine Record.

Deputy Minister Schreiber visited the canal works on the St. Lawrence front early in Nov. At the north channel, Farran's Point, & Iroquois, he found that the works during his absence have been proceeding apace. On the Cardinal section Davis & Sons were delayed by bad weather during Oct., but are rapidly making up for lost time. Mr. Schreiber looks

for continuous 14-ft. navigation between Toronto & Montreal by Dominion Day next year.

Next summer there will be lots of competition on the lake for business to the Thousand Islands & Montreal. The Northern Transit Co. has arranged to add 6 steamers to its fleet. Four of these will ply direct between Cleveland & Alexandria Bay, forming a daily line. Two will ply from Port Dalhousie, & passengers for these steamers will be brought by train from Port Colborne. All the steamers will touch at Toronto & Kingston, & form a link in the American Line of daily steamers on the St. Lawrence to Montreal.

The Canadian schooner Selkirk was sighted flying signals of distress off Thunder Bay Island Oct. 19. The life-saving crew went to her assistance, & found that the vessel had 3 feet of water in her hold, & her rudder was gone. She was bound from Fort William to Kingston with 60,000 bus. of wheat, & was being towed by the steamer Rosemount. After entering Lake Huron the tow encountered the northeast gale, & the Selkirk broke away from the steamer. She was towed into Alpena by the tugs John Owen & Frank W. Steam pumps kept her free. Temporary repairs were made to enable her to proceed.—Marine Record.

In an article entitled, "The Great Lakes & Our Commercial Supremacy," in the North American Review, John Foord brings out the fact that while the capacity of the lake freighter has been doubled since 1885, the cost of building & running it has been reduced at a ratio of from 30 to 40%. "That is to say, the 5,000-ton steamer of to-day costs only \$5 a ton to build, while the 2,500-ton steamer of 1885 cost \$7 a ton; the coal cost per trip of the 5,000-ton steamer, instead of being double that of the 2,500-ton steamer, does not average 25% more; & while 16 round trips between Lake Superior & Lake Erie ports was considered a good season's work in 1885, 22 round trips are now merely a fair season's work."

The Montreal Transportation Co.'s tug James A. Walker, & 2 barges, Hector & Kildonan, from Charlotte to Kingston, with coal, sank during a gale off Nicholson's Island, 75 miles southwest of Kingston. The tug & tow left Charlotte Oct. 20, & made their course across to Nicholson's Island, where they dropped anchor to ride out the southwest gale. The wind suddenly shifting down the lake, the boats were caught in the sea, & the Walker sank completely out of sight. The consorts broke loose from their anchorage & went ashore at Wellington, 5 miles below. Both barges are full of water, & one of the crew, a Frenchman, named Laduke, of Valleyfield, drowned. The crew reached Nicholson's island in safety. The Walker & her consorts were valued at \$75,000 to \$100,000.

An item has been widely published to the effect that the steamer Empress of India, which is lying in the drydock at Picton, is at present cut up into 3 parts, & that her length will be increased by 45 ft., which will make her 227 ft. long. We are officially informed that this is incorrect. The Lake Ontario Navigation Co. is constructing a new hull for the engines that were in the Empress. It will be composite with heavy steel keelsons & steel plate bilges & steel engine frame. It will be upwards of 200 ft. keel, probably 20 ft. more over all. The new boat, which will not be called Empress of India, will have a saloon with dining room on the main deck, finished in oak, the floor will be cherry & maple, with oak border. She will be equipped with an electric plant of 250 lights capacity, & will have a search light. She will be up to date in every particular, & a speed of 17 to 18 miles an hour is guaranteed. We are informed the new boat will ply out of Toronto. A Kings-

ton telegram, however, says she will go on the route from Rochester, N.Y., to Montreal, & along with the steamer Alexandria will provide a semi-weekly trip. The hull & cabin of the Empress of India have been so cut away that for the present nothing will be done with them.

The Province of Quebec.

The Lac Temiscamingue Navigation Co. has been incorporated by Dominion Letters patent. Capital \$25,000. Head office, Baie des Peres, Que. The incorporators are L. Lacouture, Sorel, Que.; J. O. Blondin, La Baie des Peres, Que.; D. & J. Gillies, Carleton Place, Ont.; and J. Gillies, Braeside, Ont.

The Canadian steamship lines are going this year to have one of the most successful seasons in their history, & at the present time they are obtaining their business right out of Ontario. There is more tonnage out of Montreal this year than ever before in the history of the port; in fact, there are more vessels running out of Montreal to the old country than out of the port of New York. Every boat leaving Montreal is going out with every inch of space taken up, & in some cases they have to leave cargo behind. Rates, too, are higher than usual at this season of the year; in fact, good profitable rates have prevailed all season.

The S.S. Turret Age, of the Black Diamond Steamship Line, bound for Montreal, collided with the U.S. steambarge Lloyd S. Porter near St. Croix, about 40 miles above Quebec, on the night of Oct. 23. The U.S. craft, which was struck full across her bows, filled rapidly, & sank within 5 minutes, only her masts & wheelhouse remaining above water. No lives were lost. Captain Snow, of the Porter, & 11 of the crew escaped in a lifeboat, & landed on the north shore, a short distance above the village of St. Croix. The remaining 5 & the pilot climbed the masts & were rescued by a lifeboat lowered to their assistance by the Turret Age. The responsibility would seem to rest with the U.S. boat, as she lies on the north side of the channel. Ordinarily, she should have taken the south side, & as she only drew about 12 ft. she would be obliged to make way for the larger boat. The Porter lies in about 60 ft. of water, & a contract has been let to raise her.

Chief Engineer Anderson, of the Department of Marine, has reported the result of his examination of the ship channel between Montreal & Quebec, in which a number of steamers have recently grounded. He says the opinion is freely expressed that a good deal of the trouble in the navigation of the river arose from the ignorance of some of the pilots. He voices the belief that a thorough reorganization of the pilotage system is necessary, so as to weed out the poor men, to provide punishments for negligence, drunkenness & incompetency, & to open the system to competition. He declined to discuss the question of deepening & straightening the channel, as it does not come within the control of the Marine Department. Many recommendations for the improvement of the signal service are made. He found no buoys seriously misplaced, but as a result of consultation with representatives of the Montreal Harbor Board he says:—"The feeling is very strong that the buoy service should be under the direct control of the parties interested, either the Government or the Harbor Commissioners of Montreal."

One of the most important sections in his report is that fluke anchors standing 8 or 10 ft. above the channel bottom are a danger to navigation, & should be done away with. When they are taken up this fall they will no longer be used, cast-iron sinkers being used to anchor the buoys next year.

EXPRESS MATTERS.

The Banks and Express Orders.

At the recent meeting of the Canadian Bankers' Association, in Toronto, J. H. Plummer made a suggestion towards the simplification of the new money order business, by the issuing banks taking all the commission, instead of its being divided, as now, between the issuing & the paying banks. Out of this arose a discussion, which almost eclipsed the original idea, upon the best means of meeting the competition of the express companies' money orders.

Mr. Farwell, of Sherbrooke, raised the issue. Mr. Charles, of Galt, urged that the banks should stand together against the express companies. Mr. Plummer suggested that the banks should not accept express money orders at par. D. R. Wilkie pointed out that this was once before attempted, but failed, because the banks holding the accounts of the express companies would not concur in such an arrangement. He pointed out also that some of the banks could not refuse express orders, while others did, because their customers, who received a large number of express orders in payment of accounts, would then be at a disadvantage.

It was finally decided that the incoming Executive Council be asked to consider the question of commission on money orders, with a view to displacing the orders issued by express companies, & that they should be asked specially to consider whether a modification of the rules of commission would not be helpful in this regard.

Our advice to the Executive Council would be not to waste time in trying to do something which we look upon as impossible of accomplishment. Express money orders have undoubtedly come to stay, & the public, having become thoroughly satisfied of their convenience, would not be willing to do without them. The express companies went into the money order business, not with a view to compete with the banks so much as to provide a cheap system of remitting small amounts without putting remitters to the trouble and inconvenience involved in the cumbersome red-tape-laden system of the post office money order department. That they have admirably succeeded is abundantly shown by the results. As a matter of fact the express companies do not compete with the banks to anything like the extent which the latter seem to imagine they do. The great bulk of express money orders issued are for small amounts, probably under \$10 each, on which the highest commission charged is 6 c. For this class of business the banks cannot compete. It must not be lost sight of that the express companies have thousands of offices compared to the banks' hundreds. The action of the banks in reducing rates for remittances is an admission that their rates have been too high & is a tribute to the service rendered to the public by the express companies in providing an unequalled system at a minimum cost.

Express Goods in Bond.

The following letter received by the General Manager of the Northern Pacific Express from the U. S. Treasury, explains a recent ruling of the Department:

"The department duly received your letter relative to the action of representatives of the Treasury Department in exacting a separate transportation & exportation bond for each shipment, & stamp tax of 50c. on all such bonds covering entries of merchandise shipped by express through the U.S. to & from points in Canada & British Columbia.

"Your letter was referred to the Collector of Customs at Port Townsend, Wash., who states that consignees or agents are permitted

to include in one entry & bond all consignments of various marks arriving on the same vessel or other conveyance in transit through the U.S. when destined to some port or place in Canada.

"Bonds of the above description are those required of a consignee or agent, in accordance with the provisions of Article 432, Customs Regulations, 1892, & are separate & distinct from the class of bonds of common carriers, under the act of June 10, 1890, so that your bond as a common carrier cannot be substituted for the bond required of you as consignee or agent of transit goods in order to avoid the payment of the stamp tax on the latter class of bonds, under act of June 13, 1898.

"Inasmuch as the action of the Collector in this case is sustained by a ruling of the department under date of June 30 last, prescribing a stamp tax of 50c. for each bond on all bonds with sureties taken by the Collector in the transaction of customs business, no relief can be afforded you in the premises."

The Canadian Express Co.

Offices have been opened at Loggieville, N. B., & St. Eloi, Que.

The merchandise rate from Seattle to Dyea, Juneau, Sitka, Skagway & Wrangel has been changed to the following:

1 lb. & under	50c
Over 1 lbs. to 2 lbs	75c
" 2 " " 5 "	1.00
" 5 " " 20 "	1.25
" 20 " " 30 "	1.50
" 30 " " 40 "	1.75
" 40 " " 50 "	2.00
" 50 " 4c per lb. Minimum charge	50c

Rates on mdse. between Seattle & Dawson City, Yukon, at which an office has been opened, are:

2 lbs. & under	2.00
3 "	2.25
4 "	2.50
5 "	2.75
7 "	3.00
Over 7 lbs. up to 10 lbs.	3.50
" 10 " " 15 "	4.00
" 15 " " 20 "	4.50
" 20 " " 25 "	5.00
" 25 " " 30 "	6.00
" 30 " " 35 "	7.00
" 35 " " 40 "	8.00
" 40 " " 45 "	9.00
" 45 " " 50 "	10.00

Over 50 lbs. 20c per lb. or \$20.00 per 100 lbs.

Packages exceeding \$50.00 in value will be charged 2 p.c. additional for valuation. Marine insurance of 1½ p.c. covers to sea ports only & not to inland points.

The Western Express Company.

L. L. Stesneith has been appointed Route Agent, with headquarters at Marquette, Mich., vice H. E. Gilmore, resigned.

It has been agreed between the Great Northern Pacific & Western Express Cos. to put in effect from St. Paul, Minneapolis & Duluth the plan already in force from Chicago & Milwaukee for the handling of collections of ordinary bills, accounts, drafts, notes, etc., for sums of \$100 & under, not requiring protest, from manufacturers, publishers & others having a large number of collections yearly, at greatly reduced rates. These special rates are not intended to supersede those in force heretofore, except upon collections forwarded from St. Paul, Minneapolis or Duluth destined to points on W. E. Co.'s lines having outward charge, prepaid 10 cents upon each item for collection.

In view of the recent plebiscite in Canada it is interesting to read the following from a circular recently issued by this Co.:—"Within

the State of North Dakota the law prohibits the transportation of wines, liquor, ale, beer or other similar properties, & agents must refuse such shipments. A recent decision of the U. S. Supreme Court, however, makes it lawful for transportation companies to carry such articles, C. O. D. or otherwise, for delivery within the State of North Dakota, if such shipment originates outside of the State."

A Yukon Express Co.

The following notice has been posted up in Dawson City, Yukon:—

The Northwest Mounted Police,
Dawson, August 23, 1898.

To whom it may concern:

The Yukon Mail & Express Delivery Co. is going to endeavor to establish a service for the delivery of mail in the town of Dawson & on the creeks adjacent to Dawson. They have interviewed me regarding this service, & I have agreed to assist them in any way I can in giving them letters for those who may wish to avail themselves of this accommodation for a small charge. This is entirely voluntarily on any one's part who may wish to obtain their mail through this source & is done entirely for the public benefit. As a good deal of expense will be incurred in connection with this delivery, I have given the within mentioned the sole right of this delivery for the time being.

FRANK HARPER, Postmaster, Dawson.

The Arctic Pacific Express Co.

On returning from a recent trip to Alaska, M. G. Hall, Superintendent of the Western Division of the Northern Pacific Express, & General Manager of the Arctic Express Co., said:—"I have established joint agencies for the Arctic Pacific & the Northern Pacific Express Cos. at Dawson, White Horse, Tagish & Lake Bennett; that is, the same agency handles the business of the two companies. The office at Skagway was established a year ago, with H. E. Battin as General Agent for the other agencies in that whole Northern country. The Arctic Pacific Express Co. was established 3 years ago, having offices at Wrangel, Juneau & Sitka, the Skagway office not being established until a year ago. The express messengers on the steamers, however, accept & deliver packages at all way stations en route."

TELEGRAPHS & CABLES.

The Pacific Cable.

A London, Eng., cablegram of Nov. 1 says:—"Little, if any, progress has been made with the Pacific cable question since the Australian colonies expressed to the joint conference the view that the proportion of cost should be Australasia four-ninths, & Britain & Canada together providing five-ninths. The Canadian Government, I am assured, would be glad to see the scheme fulfilled, but they contend that the smallness of the Canadian commercial interests with Australia would not justify the suggested Canadian contribution of two-ninths, as against Great Britain's three-ninths. There is no doubt felt that if Canada is really in earnest in desiring to have a cable, & if she insists on this point of the proportion, Mr. Chamberlain would induce the Treasury to make the British share more than three-ninths, but if the scheme is not to collapse utterly before pushing rival schemes come into the field, it must be urged forward promptly & resolutely."

In the Fortnightly Review C. Bright, F.R.S.E., answers the question, "Who blocks the Pacific cable, & why?" He says:—"Thanks to the energy of Sir Sandford Fleming &

Canadian statesmen, all physical obstacles are now proved to be easily surmountable. Even the Colonial Office conference of 1896, after carefully examining experts during a 6 months' session, adopted a report on the whole in favor of the all-British Pacific line. Yet no steps towards realization have yet been taken—and why? The answer, says Mr. Bright, "is because the Admiralty reported against it, thus affording the Treasury a loophole. The Admiralty appear to have taken this step in view of the tempting bait offered them at that moment by the allied telegraph companies (opposed to the Pacific scheme) of connecting up 2 important naval stations, in the course of another proposed 'all-British' line. Having in mind the improbability of the Treasury taking up both schemes, the Admiralty was of opinion—perhaps, naturally, from their immediate point of view—that the preference should be given to the route via Gibraltar, Ascension & St. Helena." How the Admiralty can defend strategically a cable which runs right into the midst of our enemies' seas as this Gibraltar-St. Helena line must do, we fail to understand. It would be difficult to conceive a line which more completely came within the assertion Lord Wolseley once made in reference to the Mediterranean & Red Sea cables, that "to depend on lines so placed is not only unwise but suicidal." They would be cut by the foreigner at the very outset of war—and then? The all-British Pacific cable is free from nearly all such risks. It would be in deep water, in the open broad ocean, far away from other European powers, & would have but few ends, all of which could be kept strictly under British surveillance.

A Line to the Yukon.

At last session of the Dominion Parliament J. M. Catton & W. S. Rainbow, of London, Eng., & C. T. Dupont, of Victoria, B.C., were incorporated as the Dawson City & Victoria Telegraph Co., with a capital of £200,000, & employed to construct & operate telegraph & telephone lines by cable, or otherwise, from Victoria by way of Telegraph Creek & Teslin Lake to Dawson City.

A charter was also granted to Lord Thurlow, T. Van Puten, & E. Friedburg, of England, W. Braid & W. Naismith, of Vancouver, B.C., A. Haley, of Windsor, N.S., & I. Burpee, of St. John, N.B., as the Northern Commercial Telegraph Co., with a capital of £100,000, to construct & operate telegraph & telephone lines by means of cables through the waters of the west coast of B.C., with connecting land lines, so as to connect Vancouver with Dawson City.

In our last issue it was mentioned that J. Roche, a British M.P., had been in Ottawa in connection with a scheme to provide the Klondike with telegraph communication, but we have been unable to obtain any later or more definite particulars.

It was recently telegraphed from Ottawa that the Dawson City & Victoria Telegraph Co. above-mentioned had arranged for construction work to commence immediately, that a cable would be laid from Vancouver to Skaguay & a land line thence to Dawson. We have been unable to secure a confirmation of this.

At the same time it was announced from Ottawa that at next session of Parliament the Minister of Public Works would ask for an appropriation to build a telegraph line to the Klondike via the Ashcroft-Cariboo route. The Government now has a line from Ashcroft, on the C.P.R., to Barkerville, 276 miles. This line was built as far as Quesnelle, in the Cariboo country, in 1865; it will be found described in our Aug. issue, pg. 167. Mr. Tarte's scheme will, it is said, provide for the extension of this line over the route originally projected in the 60's to Telegraph

Creek, thence to Teslin Lake, from which point cables will be used in the rivers & lakes to Dawson, as it is thought they would be less liable to interruptions than a land line. In response to an enquiry, Mr. Tarte informs us he is unable to make any statement about the matter at present, as the Privy Council has not come to any decision about it.

In this connection we may state that President Dwight, of the G.N.W. Telegraph Co., Toronto, recently received a cablegram from a Mr. Helm, of London, Eng., asking him to quote a figure for building a line from Dyea to Dawson & for maintaining it for a year. It is hardly necessary to state that Mr. Dwight was not prepared to give such an estimate off hand.

Western Union Telegraph Company.

In addition to the particulars given in the report of the annual meeting of this Co. in our last issue, pg. 223, it may be stated that the capital stock outstanding is \$97,370,000, of which \$28,850.35 belongs to & is in the treasury of the Co. The bonded debt on June 30 was \$15,356,282, from which has to be deducted the balance of sinking fund appropriations not yet used for redemption of bonds, \$497,406.48, making the net bonded debt, \$14,858,875.52.

The balance sheet to June 30 was as follows:

ASSETS.	
Telegraph Lines; Stocks owned of leased telegraph companies that are merged in Western Union Co.'s system franchises, patents, etc.	\$102,969,201 75
Stocks and bonds of leased telegraph companies, received in exchange for collateral trust bonds.	8,502,000.00
Stocks of not leased telegraph companies, and other securities.	8,023,068 34
Real estate.	4,977,033 74
Supplies and material in supply departments.	149,162 50
Sundry accounts receivable, etc.	2,606,836 60
Cash in treasury and in hands of agents (since remitted to treasury).	2,142,603 48
Sinking funds for redemption of bonds.	497,406 48
	\$129,867,312 89
LIABILITIES.	
Capital stock.	\$97,370,000 00
Funded debt.	15,356,282 00
Gold & Stock Telegraph Co., for stocks of other companies held through lease of that Co. until 1981.	1,986,600 00
Sundry accounts payable, etc. (including dividend July 15, 1898).	5,623,011 74
Surplus of income prior to Oct. 1, 1881, appropriated for construction & acquisition of telegraph lines & property (in excess of the \$15,526,590 capital stock distributed in 1881, on account of such appropriations of income during the 15 years preceding).	1,598,184 03
Surplus of income subsequent to Oct. 1, 1881 (\$7,333,425.21), plus the proportion of surplus of income prior to Oct. 1, 1881 (\$629,759.91), that was not appropriated as above.	7,963,435 12
	\$129,867,312 89

The Railway Telegraphers.

For some time past there has been a good deal of matter in the daily press in reference to the contemplated demand of the G.T.R. telegraph operators for a new arrangement with the Co. A committee of the operators has been in session at Montreal for some time, & it is said that they will ask for a similar agreement to the one in force between the C.P.R. & its operators, which provides for a fair trial before suspension or discharge; right of promotion by merit & ability, but, these being equal, by seniority; that telegraphers will not be discriminated against for serving on boards of adjustment representing telegraph employees; permission to attend their meetings, & free transportation for that purpose; free transportation when transferred; full pay & expenses when called upon by the proper official to attend court or investigation; compensation for attending switch & semaphore lamps; exemption from shovelling snow; exemption

from Sunday work as far as possible consistent with the requirements of the service; percentage on commercial business, hours, overtime & wages, & numerous minor details of regulations. Grand Chief Powell, of the Order of Railroad Telegraphers, with headquarters at Peoria, Ill., has been in Montreal in consultation with the operators.

Mr. Powell recently had an interview with the Minister of Railways in Ottawa in reference to the operators on the Intercolonial, who complain that they are poorly paid, & that they are not secure in their positions, owing to political partisanship charges being raised to vacate positions to accommodate friends of whatever party may be in power. Mr. Powell states that the alleged grievances have been arranged on a satisfactory basis.

Mr. Powell also saw General Manager Chamberlin, of the Canada Atlantic, & is said to have made a satisfactory arrangement regarding the telegraphers on that system.

Vancouver's Telegraph Facilities.

The Pacific Terminal City people are immensely pleased with the telegraph facilities they enjoy. The News Advertiser says Vancouver holds the foremost position on the Pacific Coast as a centre for the receipt & handling of telegraphic news & business. No other city on the Coast, not excepting San Francisco, it is believed, can rival Vancouver in its facilities for handling & transmission of telegraphic communications. Two companies operate in the city—the C.P.R. Co. & the G.N.W.T. Co. The latter is the only company having direct telegraphic service to points in Mexico.

The C.P.R. has 3 through & 3 local wires to Eastern points. The main (copper) wire is worked duplex direct to Montreal; the other 2 to Winnipeg. One local is worked direct to Rossland, Nelson & other Kootenay points, & the 2 others to points on the main line between Donald & Vancouver. To Victoria it has 2 direct wires, & a third one is about completed. To points on the Coast there is a direct quadruplex connection with San Francisco & Portland, & 3 wires—one via Victoria—to Seattle & intermediate points.

The cable business is handled with but one repetition between Vancouver & the Commercial Cable Co.'s office at Canso, N.S., thus ensuring promptness & accuracy in transmission.

Canadian Pacific Railway's Telegraph.

Extensions & improvements in the Co.'s service are the order of the day in the Kootenay district of B.C. Two additional wires have been strung between Trail & Rossland, making 3 in all. On Oct. 22 the first through wire via the Crow's Nest Ry. was completed, thus affording a duplicate line between Medicine Hat & Revelstoke. Another wire is to be added on the Crow's Nest route. There are 2 lines running north from Nelson to the main line of the C.P.R. One of these runs via Slocan City & New Denver, & the other via Kaslo & Three Forks. These meet at New Denver & then go to Nakusp, to Arrow Head & on to Revelstoke. With these means of telegraphing there will not be much chance of all the lines getting down at one time during the winter.

The Co. has discontinued its boxes in Winnipeg for calling messengers, & announces that it will send messengers in response to telephone requests. The City Electrician says the wires for the call boxes were constantly coming in contact with electric light wires & causing fires in buildings.

The Co.'s operators at Winnipeg have established an institute containing a reading-room & library. Means will be afforded for the study of electricity.

Telephoned Telegraph Messages.

The Michigan Supreme Court has decided that the Western Union Telegraph Co. is responsible for failure to promptly transmit & deliver a telephoned telegraph message, through which failure the complainant suffered a loss. The complainant had telephoned to the operator to send a message to Chicago directing a step in a wheat deal. The message was not delivered. The Co. claimed that the operator had no authority to receive the message by telephone, & that in so doing he was acting as an agent for the complainant; but the court held that the use of a convenience like the telephone should not be entirely at the risk of the patron.

Telegraph Office Changes.

GREAT NORTH WESTERN.

OPENED: East Broughton, Que.

CLOSED: Avonmore, Ont.; Bamberg, Ont.; Chateau Richer, Que.; Kiskiskin, Que.; Port Albert, Ont.

The North Shore Telegraph Line from Quebec to Labrador has been extended this year to Big Romaine River, 76 miles below Natashquan, & 656 miles below Murray Bay. An office has been opened at Big Romaine, & work is still going on farther east with the intention next season of extending it to Belle Isle. The extension to Belle Isle is in response to a memorial from the masters of nearly all the steamships engaged in the St. Lawrence trade, in order that, in case of accidents to vessels, the nature of such accident may quickly be made known & assistance sent to the scene.

The Postal Telegraph Co., which at present reaches Rossland, B.C., via the Canadian Pacific wires, has made arrangements with the Inland Telephone Co. so that it will use the latter's poles in extending the Postal wires into Spokane. The change will mean a lively competition for Spokane business between the Spokane & Northern Telegraph Co., which is now in the field, & its new rival.

TELEPHONE MATTERS.

Recent Legal Decisions.

A city street 66 ft. wide had upon it, near an angle formed by the sharp turn in the road, a telephone pole planted 12 ft. from the centre line & far enough from the side-walk so that there was a beaten track for carriages between the two. The horses attached to a sleigh which were being driven in daylight up & down the street for the pleasure of the occupants. The driver lost control when approaching the pole, but at some distance from it & before reaching the angle. In making a turn the horses & sleigh swung round, bringing the latter against the pole, overturning it, whereby the horses and sleigh were damaged & bodily injury was caused to one of the occupants. Mr. Justice Ferguson, of the Ontario High Court, recently held that the pole was an obstruction on the highway, which at this point, from this cause alone, was out of repair, & not in good or reasonable repair, & the city corporation having notice & knowledge of the obstruction, & of its dangerous character, were liable in damages for the injuries sustained, there being no contributory negligence. It seems that driving a horse that has run away before, as one of a pair of horses, is not of itself negligence contributory to the disaster. Held also upon the evidence that the pole was planted where it stood under the superintendence of the Corporation, & with their sanction, & they could recover indemnity from the Telephone Co. by whom it was erected.

The Bell Telephone Co. & the City of Hamilton.—In assessing, for purpose of taxation, the poles, wires, conduits & cables of the telephone company, the cost of construction, or the value as part of the concern, is not the test; they must be valued in the assessment division in which they happen to be, just as materials which, if sold or taken in payment of a just debt from a solvent debtor, would have to be removed & taken away by the purchaser or creditor.

The Longest Long Distance Line.

A feat in telephony, marking the farthest advance yet in the science, was recently accomplished by talking over the wire from Boston to Kansas City. The distance is about 1,560 miles, & it is the longest distance ever covered by a single telephonic circuit, & was supposed to be impossible a few years ago. The eastern district superintendent of the New England Telephone & Telegraph Co., managed the affair, assisted by the chief operator. They succeeded in making themselves easily understood over such an enormous stretch of land. The wires over such very long distances are known as no. 8, with only 4 ohms resistance to the mile, as opposed to no. 12 wires, with 10 ohms resistance, used in such short stretches as from Boston to New York. One end of a wire connects to one side of the transmitter & then is connected with a small battery of 2 volt power. A wire from the battery goes through a primary coil, thence to the other side of the transmitter. A secondary coil, also in the transmitter, is connected on one end to the line, on the other end to the receiver & also to the line, & the talking is done by the agency of an induction current from the primary to the secondary coil. The mechanical details are only important to a lay observer as indicating the extreme complexity of the process of conveying the vocal vibrations successfully, & the necessity of lessening the resistance to the smallest possible terms. The gap from Boston to Kansas City is thought to be near the extreme limit of successful transmission through the telephone, & much longer distances are only expected when some repeating system is devised, when, as with the telegraph, nearly any practicable distance is feasible. Talking from Boston to Chicago has been an old story for some time, & it was only recently that the right sort of wire connection was obtained to Kansas City; that is, the big no. 8 wire. The route followed was via Troy, Buffalo, Chicago & St. Louis.

San Francisco to Nelson, B.C.

The longest section of the Sunset Telegraph & Telephone Co.'s telephone line that is to extend from San Diego, Cal., to Nelson, B.C., has been completed & works splendidly. The section of the line completed is that extending from San Francisco to Seattle, which was recently opened for business. Speaking of the new line, F. C. Millard, the Superintendent at Seattle, Wash., said recently: "I have tried the line between New York & Chicago, & I consider this line a good deal better. We have all the latest improvements. In testing the line with the President of the company, I could tell at once who was talking, so clear was the sound. The Assistant General Manager 'came on the line' during the test, & I recognized his voice after he had uttered but a few words. The Eastern line, that from New York to Chicago, charges \$9 for 3 minutes or less conversation. Our charge will be only \$2.50 a minute, but the distance is just as great."

The right of way was secured along the country roads which parallel the railways in California, Oregon & Washington, & the highways were used as much as was practi-

cable. Twelve different construction gangs have been at work for 6 months. The wire weighs 430 lbs. to the mile, & 2 wires are strung the whole distance, for the latest type of long-distance transmitters is used, & the circuit is double metallic. The estimated cost of the line is \$250,000.

From Seattle to San Francisco the lines run almost south in direction, & Portland & Tacoma can be connected. The Siskiyou mountain range is crossed in Oregon & California. Here men will have to be stationed along the more exposed parts of the line, so that in time of storms communication will not be interfered with.

Telephone Notes.

The British Columbia Telephones, Ltd., was registered in London Eng., Oct. 8, with a capital of £100,000, in £10 shares (of which 3,000 are 4% cumulative preference) to acquire any telephone lines in British Columbia or elsewhere in Canada, & any shares in telephone companies, to enter into an agreement with the New Westminster & Burrard Inlet Telephone Co., & to carry on the business of telephone & telegraph proprietors in all its branches. The number of the directors is not to be less than 3, nor more than 7. The first are: E. Gray, F. Priestman, J. Wheatley & W. Farrell. Qualifications £500. Remuneration as the Co. may decide. It is said the B.C. Telephones Ltd., has bought out the local shareholders of the N.W. & B.I. Telephone Co. The Co. has about 700 miles of wire in Vancouver. At least 100 miles were lost in New Westminster by the recent fire, but the Co. has had a large force at work & has replaced the system as far as can be done till the burnt district is built up again.

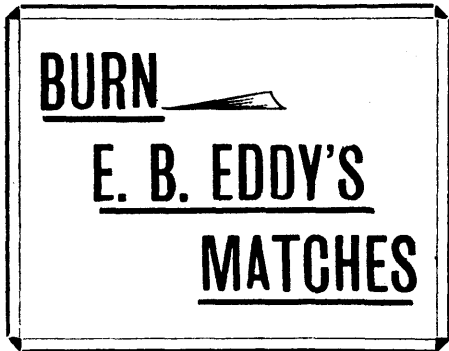
Hamilton & Dundas.—There was a rumor current in Hamilton, Ont., recently that the Bell Telephone Co. proposed charging Hamilton subscribers for Dundas service. The officials deny it, & explain that the only instruction issued lately has been that pay stations shall collect a fee from non-subscribers for Dundas service.

The Inland Telephone Co. will, it is said, extend its system into Rossland at once. A line will be strung to Rossland from Spokane, where connection will be made with the trunk wires of the system. The poles have already been erected from Spokane as far as Northport, & are being carried into Rossland with all possible speed. The Inland Telephone Co. is a part of the big Bell Trust, & has a telephone system now in Spokane covering that town completely. With the Inland lines connected with Rossland, it will be possible to have telephonic connection with the entire Pacific Coast. The Inland Co., when it reaches Rossland, will have active competition in the Spokane & B.C. Telephone Co., which already connects Rossland & Republic camps with Spokane.

Nova Scotia & New Brunswick.—It is said that the double-metallic circuit, recently established jointly by these two telephone companies between St. John, N.B., & Halifax, is working very satisfactorily.

The Roberval (Que.), Telephone Co. has been incorporated, capital \$10,000.

Toronto City Hall.—The Bell Telephone Co. submitted an offer for the telephone service of the new City Hall. The Local Manager recommends the local switchboard system, & offers to complete the service for an annual subscription of \$1,750, this offer only applying under a contract of not less than 5 years, because of the large initial expenditure. The cost of the present City Hall service is \$1,017.50. In addition there will be the salary of an operator at the new City Hall exchange station, probably \$400 or \$500 a year.



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For doors, etc., 23 x 3½ inches, blue letters and border on white ground, carried in stock with following lettering.

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Railway numbers for bridges, mile posts, signal houses, etc.; single figures on plates 8½ in. high.

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