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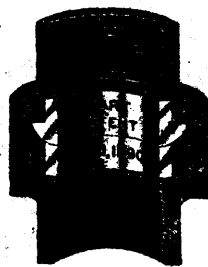


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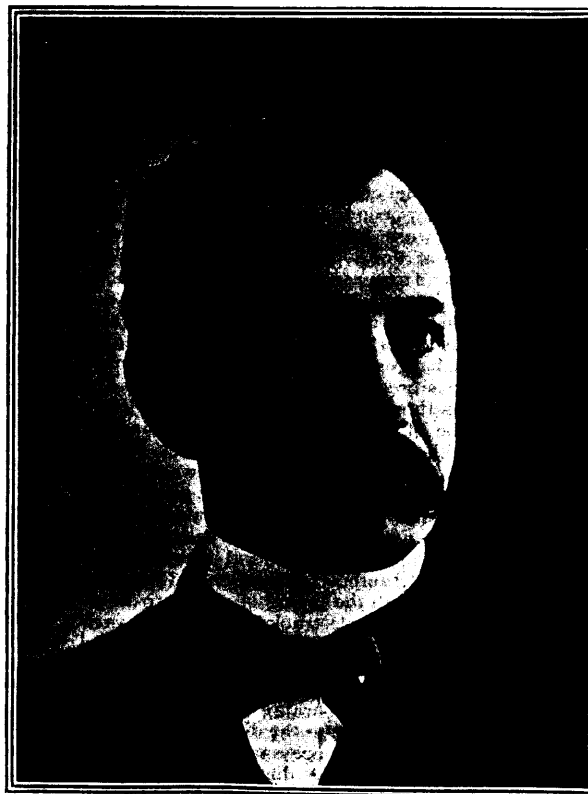
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G.T.R. SEMI-ANNUAL MEETING.

In our last issue we gave the report presented at the shareholders' meeting in London, England, Apl. 5, & also a brief cable summary of the remarks made by President Sir C. Rivers Wilson in moving its adoption. The following complete report of his speech has since been received by mail:

He said: We will take, I presume, the report & accounts as read. Well, the year 1899 was extremely favorable to the railways of Canada & in the U.S., & the G.T.R., I am happy to say, had an ample participation in the general prosperity. Our gross receipts were within a fraction of £400,000 in excess of the preceding year. We are in a position to distribute dividends upon a large portion of your capital which for many years has been entirely unproductive, & finally, we have had the opportunity afforded us, of which we have freely, but not in any exaggerated form, availed ourselves, of introducing many improvements into our lines which will have the effect of enabling us to meet the requirements of the increasing traffic & to hold out against the powerful competition which we have always had to encounter. The report & accounts which you have before you, & which we have to deal with to-day, give a satisfactory record of profit & of progress. The record is a total gross revenue in the ½-year of £2,423,798, which is the largest revenue ever received in any one ½-year in the history of the Co. Proceeding to details, I will first mention that there has been a falling off in the number of passengers conveyed during the ½-year, but that is a very natural consequence of the cessation of the rate war in the preceding year, when passengers were conveyed at an inadequate rate. On the other hand, the other result, & the more satisfactory result, of the cessation of that most unsatisfactory state of things for which we were never responsible, was an accretion of revenue under the head of passengers of £103,820. Freight & live stock traffic shows the large increase of 666,322 tons, & the gross earnings under that head were £172,961, in excess of those of the corresponding ½-year. The average rate per ton shows a slight diminution, & the average rate received per ton per mile was lower by about 9%. The mails & express business produced £5,649, & the miscellaneous receipts £789 more, so that there was an increase in every item of the receipts, amounting in the aggregate to the substantial sum of £283,219. The working expenses, including taxes, amounted to £1,594,750, & were £166,750 in excess of those of the ½-year ending Dec. 31, 1898. The maintenance of way charges include in both ½-years

an amount of £30,805 on account of the renewal of bridges on the basis approved some time ago, but in addition to that charge an additional amount of £20,000 has been included in the past ½-year's working expenses, & carried to the credit of renewal of bridges surplus account, which now amounts to £46,754. It will be remembered that when the condition of the revenue was not so favorable as it fortunately is now, it was determined that the amount chargeable to revenue for the reconstruction of the Victoria Jubilee bridge, which, by the way, is now entirely opened & satisfac-



PETER W. RESSEMAN,

General Superintendent & General Freight & Passenger Agent, Pontiac Pacific Jct. Ry., & Ottawa & Gatineau Ry.

torily completed, & the entire cost of replacing several bridges on our line, which were inadequate for the heavy loads now required to pass over them by others of a greater bearing capacity, should be spread over a period of 5 years at the rate of about £46,000 per annum, of which one-third has been charged in the first, & two-thirds in the second half of each year. I am bound to admit that this system of creating suspense accounts does not altogether commend itself to my judgment, but at the same time there are exceptional cases such as that which I have just mentioned, bridge renewals where large ex-

penditures on capital account have to be incurred—not entirely on capital account, but where large expenditures have to be incurred which it is desirable to spread over several years &, therefore, I think, under these exceptional circumstances, the creation of suspense accounts is not a thing to be put on one side, & in this case, in view of the fact that our revenue is showing a very substantial increase, we have thought it wise in the past ½-year to set aside specially a sum of £20,000 out of revenue in aid of this suspense account. The consequence will be that I hope we shall be able to abridge the term of 5 years which was recently indicated as the time over which those payments were to last.

I may just mention that there has been some delay in the completion of the bridges on the Portland—that very important division of ours—in consequence of the difficulty of obtaining material, but we are assured by the contractors that the work will be completed in the course of the present autumn, & therefore for the Portland season—the winter season which is the most important, for that portion of our line. The line will be able to bear the very heaviest engines & the very heaviest train loads which may pass over it. The Chief Engineer reports that the masonry of the new general offices at Montreal has been built to a height of about 8 ft. above the street level; &, as stated in the directors' report, an amount of £17,465 15s. 1d. on account of the expenditure has been included in the working expenses of the past ½-year. Here again there has been some delay in consequence of the great rise in prices & the consequent inability of the contractors to provide the material for completing the work rapidly.

The maintenance & equipment charges have been considerably in excess of those for the corresponding ½-year, caused partly by the larger train mileage run—about 558,000 increased train mileage—but chiefly in consequence of the rolling stock having been renewed on a more liberal scale, & including the necessary provision for the replacement of the cars out of service. Nineteen engines have been built or purchased during the ½-year at the expense of revenue, partly through the operation of the renewal fund, & there remains at the credit of that fund on Dec. 31, £21,291 applicable to future locomotive renewal requirements. I will just say one word about the car department, & one of the most regrettable circumstances connected with the enormous increase of business which accrued to all the railways on the American continent during the late summer & autumn was the fact that there was an insufficiency of cars in the case of almost every one of the railways to meet the requirements of the enormous traffic

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Melinda Street, Toronto.
NEXT ANNUAL MEETING at Montreal, Oct. 16, 1900.

which was presented to them, & to use the
expression that is used in America, there was
almost a universal car famine, & during a
great portion of the autumn, we, the G. T. R.,
were between 2,500 & 3,000 cars short of the
necessary amount to enable us to carry the
enormous quantity of traffic which was pre-
sented to us. The consequence was that the
rise in the price of material for the construc-
tion of cars was very considerable, & our car
department, acting very prudently, I think I
may say, rather delayed pushing forward the
work which they would have undertaken at a
very great additional expense. We were in
the course of constructing 500 new box cars,
& during the ½-year it was only possible to
complete 250 out of the 500, together with a
certain number of passenger & baggage cars,
but since then, I am happy to say, the whole
of the 500 have been added to our stock.

In the expenditure under the head of "Con-
ducting Transportation" the largest increase
is £20,000, in the item of fuel consumed by lo-
comotives, but this is accounted for by an in-
crease of engine mileage & an increase of 22.8
% in the tons hauled 1 mile. I am afraid our
coal bill, which is one of the most serious
items of our expenditure, is likely to increase
rather than diminish. To give you some idea
of the great extent of our operations, the
amount of fuel consumed upon the G. T. R. last
year was 975,000 tons of fuel. Of that 940,-
000 tons were consumed in the locomotive
department alone—I am speaking of the whole
year—at an expense of something over £400,-
000. There has been also some increase in
wages in consequence of the not unreasonable
demands of certain classes of our operators.

The charges to capital account in the ½-
year, less credits, amount to £92,110. The
new roundhouse at Sarnia has been completed,
& will be of great advantage in avoiding the
delay hitherto caused by the engines having
to be run from Sarnia to Point Edward. The
saving expected, which will be effected by
the new arrangement in wages alone, is es-
timated to amount to \$5,000 a year. It was
mentioned at the last general meeting that
the board had authorized the General Manager
to proceed with the laying of about 10 miles
of additional double track in sections at var-
ious portions of the line where the increased
accommodation would be most advantageous.
The work has now been completed with the
exception of some bridge work, which has
been delayed owing to the difficulty of obtain-
ing delivery of the necessary material, but is
now being provided, & during the current ½-
year these bridges it is expected will be fin-
ished, when there will only remain 45 miles of
single track between Toronto & Montreal, a
distance of 333 miles. That work will be
taken in hand as soon as possible, but it will
be somewhat of a costly nature owing to the
fact that the gradients are very heavy at those
particular points, & there are also very serious
curves. There are other portions of our line
where we intend to push forward with all
necessary speed the double tracking of our
line, especially between Niagara Falls & Ham-
ilton, a distance of 43½ miles, the double
tracking of which the General Manager ad-
vises could be accomplished without difficulty
owing to the nature of the ground, & sur-
veys & specifications have already been pre-
pared, & we intend to enter upon that work
as soon as we possibly can. The capital ac-
count has also been charged with £27,163 in

respect of the equipment of engines & freight
cars with safety appliances in conformity with
the provisions of the U.S. Act. The period
for complying with the statute has been fur-
ther extended to Aug. 1, 1900, by which date
it is expected the furnishing of sufficient of
our rolling stock with air brakes & automatic
coupling appliances, to meet the requirements
of the Act, will be completed. The growth of
the business requiring to be handled through
the Co.'s terminals at Montreal has necessi-
tated the purchase of some additional land in
the immediate vicinity of our Bonaventure sta-
tion. Of course land in that vicinity is nat-
urally rather expensive, but it was absolutely
necessary for the handling of our freight traf-
fic that we should have some additional ac-
commodation, & an amount of £41,189 has
been charged in the last ½-year's accounts
for land purchased, & some further expendi-
ture on that account will have to be incurred,
as well as for the laying of additional tracks,
& the construction of the freight house, which
will be necessary for the improvement of the
business of the company.

The results of the ½-year's operations com-
pared with the corresponding period of 1898
were as follows:—The gross receipts amounted
to £2,423,798, against £2,140,580, being an
increase of £283,218. The working expenses
were £1,594,750, as compared with £1,428,-
000, an increase of £166,750. The net traffic
receipts were therefore £829,048, as against
£712,580, being an increase of £116,468.
The net revenue charges, less credits, were
£4,467 more, & the advances to controlled
lines under agreements were £4,266 less than
in 1898, & the net result of the ½-year's work-
ing amounted to £385,108, against £208,841,
an improvement of £116,267. We are there-
fore in a position to-day to recommend to
you the payment of some substantial divi-
dends, & we propose to recommend for your
approval the payment of the 2% for the ½-
year on the guaranteed stock, which makes,
with the 2%, paid in the previous ½-year,
4% for the entire year. We recommend
you to sanction the payment of 4% upon
the first preferences, which added to the 1%
paid in the previous ½-year makes a total of
5%; & we further recommend to you the pay-
ment of 3¼% upon the 2nd preference stock.
I will just remark that this is the first time
that a full dividend has been paid on the 1st
preference stock since 1887, while the 2nd
preference has received no dividend at all
since 1887, & then they received only a divi-
dend of 6s. 8d. It will be observed that there
has been introduced into the report on this
occasion a table showing the revenues of the
G. T. Co. for the past 8 years, which are very
interesting & instructive. In the first 4 years,
from 1892 to 1895 inclusive, the gross receipts
amounted to £15,378,094, & the working ex-
penses to £11,093,762, being at the rate of
72.14%, whereas in the last period of 4 years,
from 1896 to 1899 inclusive, under the present
management, the gross receipts were £16,-
242,119, & the working expenses were £10,-
909,991, or 67.17%, showing a saving, com-
pared with the previous 4 years, of 4.97%
—very nearly 5% which on the gross receipts
of the 4 years, 1896 to 1899, would amount to
£807,233. These figures, I think, require no
comment, but they speak volumes for the abil-
ity & energy of Mr. Hays & of the staff that
works the line.

Now, I do not wish to throw cold water
upon the present friendly meeting, but at the
same time I must give you one caution against
indulging in a too exaggerated opinion of the
future, based upon the figures which I have
just laid before you. There must be limits to the
economy in working; there is no limit to the
antagonistic influences with which we have to
contend. We may necessarily expect com-
mercial disturbances & financial disturbances
& a series of bad harvests which may affect
our revenue; but even if our revenue continues

to increase, as I trust it may do, & as I think in the immediate future there is every prospect that it will, I say that even in those circumstances you must remember that an increase brings with it additional higher prices for material & higher claims for wages, while there is one thing that does not rise, & that is the rates. And upon that subject I have spoken to you upon more than one occasion, & if I now address a few words to you on the subject, it is because I think it is the duty of those who are responsible for the management of this great corporation to add their voice of complaint & expostulation to the chorus which has been raised by all of the railway companies on the continent on the other side against the unfortunate existing state of things, which is very much owing, if I may venture to say so respectfully, to the neglect which the interests of the great American railways have received at the hands of Congress. Now, like all the great railway companies, we have been suffering very severely of late from the great increase of prices—the enormous rise in the prices of all articles & materials required in the maintenance & equipment of our lines. It has been calculated that during 1899 the cost of maintaining a first-class railway in its normal condition has been \$300 a mile in excess of what was required during 1898. To descend from generalities to particulars, I will mention the case of engines. The market price of engines, which 2 years ago was from \$11,500 to \$12,000, is to-day \$16,000, & the same causes which produced this increase affect the cost of material purchased for use in our own shops. A similar remark applies to the material for car construction & also for steel rails. I must just mention that by good fortune, & I may say some little foresight on the part of your directors & the management, we were able to secure contracts for the delivery of a very large quantity of 80-lb. steel rails, in anticipation of our future wants, in excess, no doubt, of the price that we paid in the previous year, but very considerably less than the market prices. In the same way we purchased from the Baldwin Locomotive Works for delivery last Nov., 10 heavy engines for \$12,500 each, whereas had we delayed our order we should have had to pay \$15,000, & we should not have obtained delivery until Mar., 1900, which would have caused us the greatest possible inconvenience. We cannot always expect to make such good bargains as that, nor to be always beforehand with the market, & I only mention to you these circumstances as indicating the great difficulties we have to contend with owing to the great rise in the prices of all material; but the most serious factor against which the management has to contend is that of inadequate & especially of fluctuating rates for the carriage of freight. Prices may not always remain at their present high level, & some alleviation may be obtained in this respect, but there seems no indication of better rates. In 1883 Sir Henry Tyler, in one of his interesting addresses to the proprietary, deplored the fact that rates had fallen to 30c. per 100 lbs. for grain from Chicago to New York, & he said that never, except in a time of intense competition, had the G.T. worked at so low a winter rate. The rate this winter has been 13c. for grain for export & 15c. for grain for domestic consumption from Chicago to New York, & we are expected to congratulate ourselves because the rate on both classes was to be put back to 15c. from the 1st. of this month. That has been done. Yet, there is something even worse than low rates, & that is unstable rates, & the uncertainty of maintaining them at the published tariff, whatever they may be. The question is constantly and not unreasonably asked, "How is it that these great railway corporations, so rich & so powerful, are not able to maintain rates?" & I assure you that is a question that I have always found it very difficult to answer. You would have

thought that with great systems, say, for instance, the Pennsylvania & the great Vanderbilt interest—these great corporations controlling, as they do, many of the lesser lines—you would have thought that the influence of great, rich & powerful financiers of New York, & their enormous interest in keeping rates steady, you would have thought that the interests of the public—and it is calculated that about one-fifth of the wealth of the U.S. is invested in railway securities—you would have thought that all these great interests would have been powerful enough to insist that rates should be maintained; but apparently they have not been able to do anything of the sort. During this late car famine, of which I spoke to you when there was absolutely an insufficiency of equipment to convey the traffic which was being forced into our railway stations, you would have thought that railways would have been masters of the situation, & that rates would have risen. Nothing of the sort; they remained as low as ever. The only answer to this vexed problem appears to be that the big shippers are more powerful than all these things that I have mentioned, & they are strong enough & wealthy enough & powerful enough to impose their will upon the railways. This most disastrous state of things—because not only does it affect the railways most injuriously, which railways are thus obliged to earn their money under the yokes of these people, & I am told that many of these people have never been known to pay the full tariff rate—this not only has an effect upon the railways, but a great public evil is caused—a great public & great economic evil is caused—by the action of those people, & by the unfortunate weakness of these railway companies in concurring in this state of things; & that is that the small shipper, the weak shipper, the struggling shipper, is obliterated. But I will not dwell upon that, because it is, perhaps, rather outside the purview of our own particular question; but I will mention that the Interstate Commerce Commission, who were originally appointed rather especially with a view of controlling & restraining the railways—they are loud in their denunciation of the present state of things, & they have reported to Congress only last year, that the situation was deplorable, & that the present law is inadequate to deal with it. You will remember that the Anti-trust Law of the U.S. prohibits railways from combining, or, at any rate, it restricts the courts from enforcing any contracts made between the companies &, as has been truly said, all the world may combine against the railways, but the railroads may not combine for their own protection. Employees may combine against railroads to get more wages, but the companies may not combine to maintain reasonable rates. I must add one other reference to the weighty reports of the Interstate Commerce Commission which I just alluded to. They state their opinion that the "Government must in some form assume such a measure of control over railway rates & management as will restrict excessive competition, & ensure to all shippers, large & small, rich & poor, strong & weak, the same rights & privileges in everything pertaining to railway service," &, they add, "every consideration of private justice & public welfare demands that railway rates should be reasonable & uniform to all shippers & equitable between all communities, & until needful legislation is supplied that demand must remain unsatisfied." The remedy proposed by the railways is that pooling shall be legalized, & also the contracts entered into among the railways for carrying out such a system as that should be recognized & enforced in the courts—in short, what might be called "legalized co-operation." All we can do is to speak loudly in that sense, as all the other railways are doing on the other side of the Atlantic, in the hope that our views may be heard by Congress, & that some legislation

may be carried into effect in the sense I have just indicated to you.

The working of the Chicago & G.T.R. has not been very satisfactory for the past ½-year. There has been a very considerable increase in the gross receipts, a large increase in the tonnage of freight; but unfortunately the expenses have also increased in a still larger ratio, & the consequence is that the deficiency is increased, I think, by £4,703. On the other hand, I am happy to say that the Detroit, Grand Haven & Milwaukee Ry. shows a much more satisfactory result, & for the first time since 1891, the ½-year's working has absolutely been able to show a surplus, a surplus of £5,088. The Central Vermont, of which so many deplorable accounts have been related in this room, I am happy to tell you is working most satisfactorily. After the reorganization of that Co., in which we took so large a part, as you will remember, we always expected that as soon as the line became disentangled from the loose, free, & easy management which had controlled it, we always anticipated very satisfactory results from putting the line under better management; but the results, under the able management of Mr. FitzHugh, & under the control of Mr. Hays, have surpassed all our expectations; & the consequence has been, as I think it is stated in the report, that the working for the 8 months ending Dec. 31 shows a very substantial surplus over the fixed charges. This result is a result most creditable to our officers, &, as I said before, it goes beyond what we certainly ever could have hoped for.

There is one item of expenditure which I should like to mention to you—it is alluded to in the report—and which, I think, will have your approval. The people of this country, & not least of all, the shareholders of the G.T.R. whose fortunes & interests are so clearly identified with those of the Dominion of Canada, have applauded & admired the noble & patriotic attitude of Canada in these recent times. And when the other day a patriotic fund was formed in Canada for the relief & for the advantage of the gallant Canadians who are fighting the battles of the Empire in South Africa many thousand miles from their own country, & for their families during their absence, we felt that it was our duty—and we also felt that we should have the cordial approval of our proprietors if we added our contributions in these prosperous times in which we are placed to that most excellent fund. We judged that we should have your approval & we contributed a sum of \$15,000 to this fund, & I am happy to say that our example was promptly followed by the C.P.R. Co.

I now come to a matter somewhat more complex & somewhat more troublesome than those matters with which I have already troubled you. I must say a few words upon the position, especially upon the financial position, of the Chicago & G.T.Ry., & I am very glad in having the opportunity of giving some information or explanation to those persons who, I venture to think, are persons who are imperfectly acquainted with the real state of affairs. You must please bear in mind three things in considering the position of the Chicago & G.T.Ry. In the first place, that Co. has a very heavy floating debt which it has no power to liquidate, no means to liquidate. In the second place, the Chicago & G.T.Ry. is unable to earn under present conditions even its fixed charges; &, in the third place, it is absolutely indispensable—if the Chicago & G.T. is to maintain a position of any sort in competition with the other railways out of Chicago—it is absolutely indispensable that a very large sum, should be spent upon double-tracking the line, improving the line & improving its equipment. Those are three points which I must beg you to bear in mind in considering this question. Now, as regards indebtedness. The Chicago & G.T. at present is under indebtedness to the G.T. Co. of

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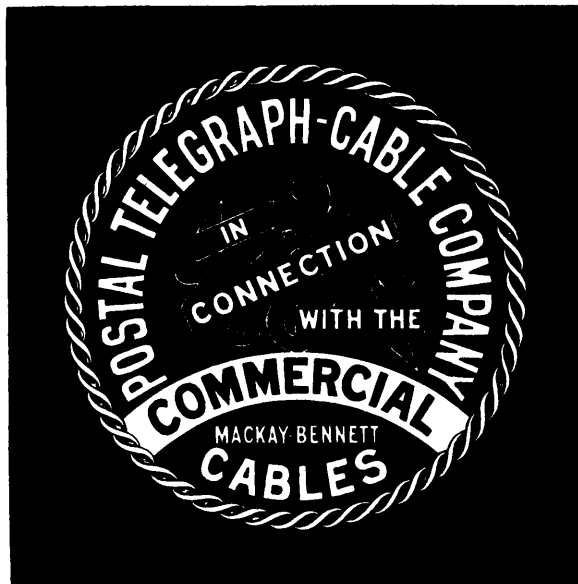
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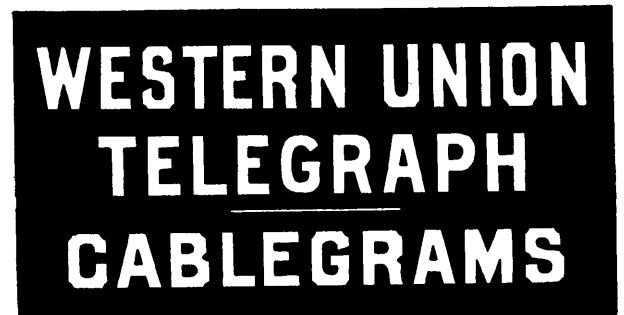
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no less than £1,359,424. As regards the earning capacity of the line, you are aware that when the bond capital of the Chicago & G.T. Co. was originally issued, traffic agreements were entered into by which the G.T. Co. undertook to supplement, out of a percentage of its earnings of traffic interchanged between the two companies the net revenue of the Chicago & G.T. to such an extent as might be necessary to meet the full interest on the bonds. This arrangement has borne heavily on the G.T. revenue for many years past. I will, by way of illustration, give you the figures for the past 6 years. The net earnings of the Chicago & G.T. Co. amounted for the 6 years, from 1894 to 1899 inclusive, to £438,832, from which had to be disbursed for rentals & interest on borrowed money £263,326, leaving a net amount available for bond interest for the 6 years of £175,506, an average of £29,251 a year. Inasmuch as the interests on the C. & G.T. 1st mortgage bonds amounted to \$360,000 & on the 2nd mortgage bonds to \$300,000—in all \$660,000 a year, a total of £813,700 for the 6 years, it follows that the C. & G.T. net revenue for that period was short of the bond interest requirements by £638,194, of which £571,488 had to be provided by the G.T. Co., & the terms of the traffic agreements, & the remainder by way of additional advances to the C. & G.T. Co. These obligations have made a serious inroad on the G.T. revenue resources, & by way of further emphasizing this fact, I wish to point out to you that when the 2½ years, from Jan. 1, 1894, to June 30, 1896, when the G.T. fortunes were at their lowest ebb—in those dark & depressing days of the fortunes of the G.T. Co. our Co. accumulated a revenue deficiency of £306,000—we were unable to meet our fixed charges to that amount; & in that same period the G.T. Co., in terms of the traffic agreements, contributed from its revenue by way of advances to the C. & G.T. Co. to meet its bond interest no less than £325,000. It may be said, it has been said, that the G.T. earnings are increased by the traffic interchanged between the two companies which it might not otherwise obtain; & this is, of course, true to a certain extent; but it must be borne in mind that the G.T. could always control a large proportion of the traffic, & that the net profit made by the G.T. Co. on the traffic—to a large extent through business which it receives from its connection with the C. & G.T. taking into consideration the low rates that have ruled for a long time past, has been commensurate with its obligations under the traffic agreements. You will see therefore, that whilst we were absolutely in a state of quasi-insolvency we were bound under this agreement, this unfortunate agreement, I might almost call it, bound to pay out money in order to maintain the credit of the C. & G.T. bonds, at a time when we were not earning interest to pay your bonds. As the traffic agreement in connection with the C. & G.T. 1st mortgage bonds due Jan. 1, 1900, terminated at that date, it was necessary for that Co. to review the position of its affairs in regard to the maturity of that portion of its bond capital, the arrangement of its floating debt, & the raising of fresh capital absolutely necessary for the purpose of improving the physical condition of the line so as to enable the Co. to maintain its earnings in competition with other lines which had already expended large sums in providing for their similar requirements. No fresh capital has been raised by the C. & G.T. Co. since the issue in 1882 of the 2nd mortgage bonds owing to the conditions of that mortgage, which provided that no larger amount than the then existing 1st mortgage of \$6,000,000 be raised in priority to the 2nd mortgage, & the outlay absolutely necessary for the C. & G.T. requirements on that account had, from 1882 to 1895, been advanced by the G.T. Co. out of its resources, & that Co. also advanced during that period

large sums for supplying the C. & G.T. with rolling stock, stores, &c. Since the present board took office the directors have not considered it desirable to increase these advances, nor are they prepared to advise you to use the resources of the G.T. Co. for the purpose of meeting the further capital now so urgently required. In these circumstances the C. & G.T. Co. in Oct. last issued a circular addressed to the holders of the 1st & 2nd mortgage bonds containing a scheme for the reorganization of the Co. which, on the existing condition of its affairs, must be considered a fair & equitable arrangement for all parties interested, & one which, when carried into effect, would place the Co. in a sound position. The object, the chief object, of that scheme is to make the C. & G.T. Co. self-supporting, & at the same time, to enable it to do that, to provide a large sum of money for the absolutely necessary improvement of the line. In the scheme propounded by the C. & G.T. board the bond issue is to be restricted to \$15,000,000 bearing 4% interest. That amount includes rolling stock, putting the line into a satisfactory condition to work the traffic at the lowest possible cost, which, doubtless, will have the effect of materially increasing the earning capacity, & in order that the new 4% bonds may become a perfectly sound & first-class investment, & the regular payment of the interest sure, the G.T. Co. propose, if the scheme goes through, to enter into a new traffic agreement by which these objects will be secured. And now I wish to say a few words to the 1st and 2nd mortgage bondholders of the C. & G.T.R. It is possible that some of them may be present here to-day, but no doubt my words may go beyond this room. The scheme put forth by the C. & G.T.R. has received the assent of somewhat over two-thirds of the 1st mortgage bondholders, but a certain number have expressed their dissent, & another portion, making up the total outstanding one-third, a certain portion appear to be in a condition of hesitation, & have not pronounced assent. I should like to point out to those gentlemen who have dissented that those holders who have dissented & those holders who are still hesitating are in my judgment acting very unwisely. They are offered in exchange for their old bonds a new bond, which I venture to say will in a very short time after the scheme of reorganization is gone through, occupy a very high position indeed in the market, and I venture to think that if those persons whom I am alluding to had been well advised, or if they had studied the situation a little more accurately they would have seen that they were acting contrary to their best interests by refusing the offer which was made to them. I am assured that the certificates—that the market price at the present moment of Glynn's certificates, which have been issued to the bondholders who have deposited—I am assured that there is a quotation for these certificates in the market between 98 & 99 at the present time. I am also assured, upon very high authority, that if it had not been for the short-sighted opposition of those holders to whom I have just alluded, there is very little doubt whatsoever that these certificates at the present moment would command a much higher price—probably considerably & substantially above par. And what more could these holders have expected to receive—100 for £100 bond in the circumstances I mentioned to you? They would have received something more than 100 for their £100 bond; therefore I hope it is not even too late now. I hope my words will go forth. I have no other interest to serve, not only for our own Co. but for this C. & G.T. & the holders in whom we are interested. I think they will act most wisely if they join in the scheme, for it seems to me the height of unwisdom that they should allow themselves to be persuaded that this scheme was not for their advantage. Just think for a

moment what this bond is. This is a 4% bond, a 1st mortgage bond upon this railway which after it has been put into good order—as we intend it shall be—will have a very high earning capacity indeed. It is a substantial interest guaranteed by the traffic agreement proposed to be entered into by the G.T. In point of fact I may say that that guarantee takes the form almost substantially of a prior charge because it is payable out of the gross earnings of the interchange traffic. And this bond, this gold bond, is a 50 years' bond, running for 50 years, & better very much in that respect than the old 21 year bond. I cannot conceive in the present condition of things that there is a finer or more promising bond than this, & I would say also, as I mentioned just now when I spoke in the interest of the C. & G.T. holders—which I do most sincerely—that you must remember that we of the G.T. are far & away the largest holders of these bonds, & I shall congratulate the board & shall congratulate all of you proprietors, if this scheme goes through, as I have no doubt it will go through. It will be much to our advantage, & if it is to our advantage, it is to the advantage of all the other holders of these bonds. I will say the same thing to the 2nd mortgage bondholders. The 2nd mortgage bondholders are grumbling & complaining. They think that fair treatment has not been awarded to them. What do the 1st mortgage bondholders say? They complain that we are treating the 2nd mortgage bondholders too liberally, because, forsooth, they are admitted to 1st mortgage, whereas, hitherto, they have only had a 2nd mortgage. Therefore, I think I may set one set of bondholders against the other, & leave them to fight the thing out themselves. But I go back to the more important thing of what I said just now, namely, that this bond is a most valuable bond, as you will be able to see in the future, & all you gentlemen who have had opportunities of securing those bonds, & have not availed yourselves of that opportunity, will bitterly regret it some of these days. I will pass from that subject, & I hope my words will have some effect & induce friendly co-operation amongst all classes of bondholders, so that our scheme will go rapidly through without any impediment.

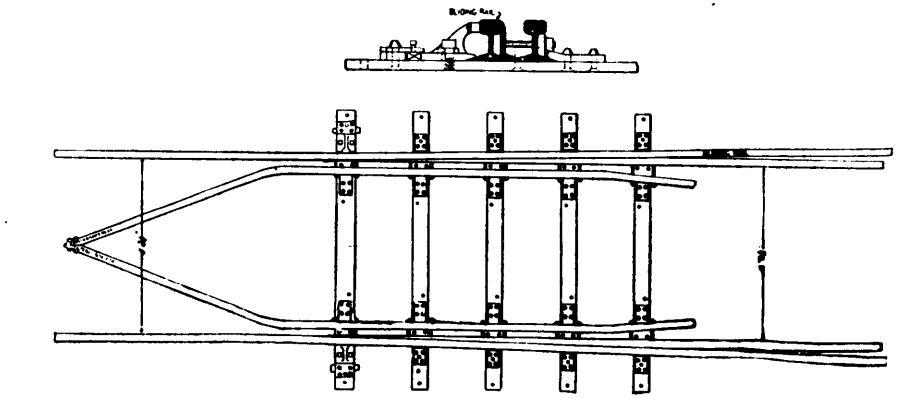
There is only one other matter, which is of a totally different order, which I must allude to, & that relates entirely to the G.T. Co. I am sorry to have to announce to you that our General Traffic Manager, Mr. Reeve, after a long, & successful & faithful service of 40 years, is about to retire from our service—he will retire on May 1 next. It is a matter of the most sincere regret to us that he is leaving us, because his services are quite of an exceptional character. He is a man who has been devoted to our interest for very many years. He has brought intelligence of a high order to bear & the result of his work has been most valuable & most useful to the interests of this Co. I think it is only due to him & it will be only interesting to you, that I should read to you the words of Mr. Hays in announcing to us the most regrettable circumstances of Mr. Reeve's retirement. He writes this:—"Mr. Reeve has filled the position of telegraph operator, agent, train despatcher, soliciting for freight agent, division freight, general traffic manager, & finally traffic manager, in which position he has performed the duties of the office energetically & faithfully, & to the credit of the Co. he represents," & Mr. Hays goes on to say—"I need hardly say I shall part with Mr. Reeve with extreme regret. I have never had an officer associated with me in the position occupied by Mr. Reeve, in whose judgment, zeal & fidelity I placed greater confidence. His long connection with & consequent familiarity with the traffic conditions of the property have made his services highly valuable." Well, that tribute from Mr. Hays, than whom there

is not a better judge on the continent of America, is a very high tribute indeed to the value of Mr. Reeve's services. We shall part with him with the utmost possible regret. Mr. Hays has made certain recommendations, which have been approved of by the board, for supplying the place of Mr. Reeve, & I think you will entirely endorse his action, & that of the directors, when I tell you that, as the result of his retirement, there will be promotion in the staff—no outside person will be introduced; but it has been found possible, owing to the ability & the intelligence of the gentleman who has been working under Mr. Reeve, to make promotions in the office, which will supply, & I hope, adequately supply, the loss of his services. I think there is nothing more of an interesting character with which I need trouble you now, & I will merely conclude by proposing to you the resolution.

The report & accounts & the recommendation for the payment of dividends were adopted. G. von Chauvin, Col. F. Firebrace, A. W. Smithers & Sir W. L. Young were re-elected directors. F. Whinney, London, Eng., & T. Davidson, Montreal, were re-elected auditors. On motion of Mr. Liversedge a hearty vote of thanks was passed to the directors & to the staff in Canada. Mr. Liversedge said the best tribute to their labors was the fact that the meeting had had no criticisms from the shareholders.

The Creeping of Rails.

N. W. Eayrs, Superintendent of the Eads Bridge, St. Louis, Mo., has supplied the following information as to the exact amount of rail creeping on this bridge & the means adopted to accommodate it. He says: "This movement of the rails occurs not only upon the spans, but also upon the east approach trestle; the movement on the latter is, however, considerably less now than it was before the trestle was reconstructed. The original structure was very light, & in consequence there was an unusual amount of elasticity in the floor. The creeping occurs always in the direction of the traffic; that is to say, the west-bound track runs west & the east-bound track east, & varies in amount with the variation in tonnage passing over the rails. The movement is dependent on the elasticity of the track supports; with increased stiffness in the floor system the amount of rail movement is decreased; in fact, several years ago a portion of the east approach trestle, a wooden structure about 1,000 ft. in length, was filled



"THE IRISHMAN" AT THE EADS BRIDGE, ST. LOUIS.

& the track put on the ground. In this portion the rail movement almost entirely disappeared. As corroborating my opinion that the rail movement is caused by the elasticity of the road-bed, I may mention a section of track on the Canadian Pacific, which was laid on a soft marsh. If my memory serves me rightly as to the amount, this section of track moved 2 ft. under a single train.

"From April 15 to May 15, 1899, some measurements of the movement were made at two points, one on the centre span of Eads Bridge, & one at the west end of a 5° 43' curve on the east approach. The movements were as follows:

East-bound track.	Centre span.	East approach.
North rail.....	17 ft. 10½ ins.	25 ft. 9 ins.
South ".....	19 ft. 4½ ins.	47 ft. 7 ins.
West-bound track		
North rail.....	19 ft. 9½ ins.	33 ft. ½ in.
South ".....	12 ft. 7½ ins.	34 ft. 2½ ins.

"The rails on the east approach have a much larger run between creeping points than on the bridge, which accounts for the increased rail movement.

"Attempts were made at one time to check this movement, but it was found inadvisable to continue the experiment, as the strain on the fastenings was sufficient to tear fish-plates in two, or to shear off a ¾ in. track bolt. Accordingly the track was kept continuous by inserting pieces of rail of various lengths at the end where the movement commenced, and removing corresponding pieces at the other end. At either end of the bridge there are cross-overs which of course must be kept in line; at these points, therefore, the rail movement required control; there are also two points on

the east approach on each track which require protection. Accordingly there are 8 "creeping plates" as we call them, in the track.

"In order to avoid the necessity of keeping a supply of pieces of rail from 2 in. long to 30 ft. long at each place, & to dispense with the necessity of keeping a trackman to watch these places, we put in, about 15 years ago, a device which is shown on the accompanying drawing. This device consists of a pair of switchpoints, rigidly held to gauge by forming part of an iron frame which is bolted to the ties. The main rails of the track which is ahead of the device—that is, in the direction of the traffic—extend outside of the switch points. A full rail is coupled on to the main rail, which, in case of a trailing point, drags the rail through the jaws, or, in the case of facing points, shoves it through the jaws. In the former case, when the rail has nearly passed through, a new rail is coupled on, & in the latter case the rail is uncoupled as soon as it has passed through the creeper (or the 'Irishman,' as the trackmen call it, as it takes the place of the Irishman formerly employed). The rail which has been shoved through the creeping plate & has been taken off, is carried across to the opposite track to be used to feed into the creeping plate & begins to travel back again.

"The force impelling the rail is so strong that it will drive a straight 70 lbs. steel rail through a 5° 43' curve, curving the rail during the passage & straightening it again after the rail comes through.

"The movement on the spans can probably never be entirely overcome, as the deforma-

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tion of the arched ribs under the action of a moving load intensifies the action of the elasticity of the track."

We submitted Mr. Eayrs' remarks to the Manager of the C.P.R. western lines, W. Whyte, who writes us as follows:—"I expect the article refers to the creeping track on the Barclay muskeg, at bridge 223, about 217 miles east of Winnipeg. When the track at this point was laid with 56 lbs. steel, it used to move under every train, rendering it necessary for the Co. to keep a watchman on duty there day & night with short pieces of rails to meet the expansion & contraction. I myself, in 1887, saw the track creep while a train was passing over it, 2 ft. 4 ins. To stop this creeping, the length of the ties was increased from 8 ft. to 12 ft., & a slot cut in the base of the rail over each tie, the slots being staggered, that is the slot in the rail over one tie would be on the inside of the rail & over the next tie on the outside of the rail, & two slots were not cut in the rail over one tie, to prevent weakening the rail too much. When the track was laid with 72 lbs. steel, 44 in. angle bars were used, & the steel laid with even or square joints, so that the ties would not slew with the creeping. The rails were not notched as above set forth, but angle bars used on the centre of every second rail, which were spiked to the ties. This is the practice we have been following on muskegs where track creeps. This has had to be done at Oxdrift & Telford with our 73 lbs. steel & 26 in. angle bars, which have spike holes punched through them, & which give far better service than the 44 in. angle bar with the slotted holes, as the shoulder was continually wearing off on the latter, rendering the bar useless for holding the rails, & by slipping past the spikes, destroyed the gauge of the track. By this means we have been able to stop creeping track, but the joint ties still churn on the muskeg. By laying the rails with even or square joints we have prevented the joint ties from slewing, & kept the track in gauge.

"In addition to my own personal observations, as mentioned above, measurements have been taken of the distance the track crept under a moving train, & these show that a movement occurred in the track of from 2 to 37 ins., depending on the temperature, weight of engine & train, & softness of bottom. Where the grade descends to these muskegs, & is in the direction the heavy traffic is moving, the creeping was always greater."

Recent Ontario Legislation.

Among the Acts passed at the recent session of the Ontario Legislature were the following:—

- To confirm an agreement between the commissioners for the Queen Victoria Niagara Falls Park & the Fort Erie Ferry Ry. Co., & relating to the said Co.
- Respecting certain railways.
- Respecting aid to certain railways.
- Respecting aid by land grant to the Algoma Central Ry. Co.
- To amend the street railway act.
- Respecting mortgages by electric railway companies or street railway companies.
- Respecting the Town of Port Arthur.
- Respecting an agreement between the City of Stratford & the G.T. Ry. Co.
- To incorporate the Bracebridge & Trading Lake Ry. Co.
- To incorporate the Camp Bay & Crow Lake Ry. Co.
- To amend an act respecting the Fort Erie Ferry Ry. Co.
- Respecting the Hamilton Radial Electric Ry. Co.
- To incorporate the Huntsville & Lake of Bays Ry. Co.

To revive, extend & amend an act to incorporate the Ingersoll Radial Electric Ry. Co.
Respecting the Manitoulin & North Shore Ry. Co.

Respecting the Metropolitan Ry. Co.
To incorporate the Nickel Belt Ry. Co.
Respecting the Ontario, Belmont & North-ern Ry. Co.

To incorporate the Ottawa & Dundas Ry. Co.

Respecting the Pacific & Atlantic Ry. Co.
To incorporate the Queenston, St. Catharines & Port Dalhousie Electric Ry. Co.

Respecting the Sudbury & Nipissing Ry. Co.

To incorporate the Superior & James Bay Ry. Co.

Respecting the Toronto Suburban St. Ry. Co.

To incorporate the Victoria Mines Ry. Co.
To incorporate the Wabigoon, Manitou & Rainy Lake Ry. Co.

To incorporate the Woodstock, Thames Valley & Ingersoll Electric Ry. Co.
Respecting the Algoma Commercial Co.

C.P.R. Financial Statements.

The balance sheet appended to the recent annual report contained an item of \$1,272,477.44 as an asset under the head of "miscellaneous securities & advances." Following are the details:—

Chateau Frontenac (Quebec hotel), stock	\$280,000 00
Canada Northwest Land Co., stock (cost). (Taken by this Co. in 1882, as one of the terms of the sale of 2,200,000 acres of land to the C.N.W.L. Co.)	518,087 27
Niagara Bridge & Real Estate. (Acquired in 1890, with view to extension of line from Woodstock & Hamilton to Niagara Falls)	96,823 57
Dominion Express Co., stock. (This Co.'s Express, the stock of which is all held in the treasury. Amount paid up represents cost of original equipment & organization.)	113,750 00
Insurance Premiums prepaid. (On contract to secure advantageous terms)	193,566 60
South Ontario Pacific Ry. Stock. (This Co.'s organization for line, Woodstock, Hamilton & Niagara Falls)	20,000 00
Nakusp & Slocan Ry. Stock	35,000 00
Miscellaneous Securities and Advances	15,250 00
	\$ 1,272,477 44

NOTE.

Amount advanced Minn. St. Paul & Sault Ste. Marie Ry for interest under guarantee	\$963,846 89
Less amount repaid	325,000 00
	\$ 638,846 89

LAND SALES IN 1898 & 1899.

	Acres.	Amount realized.	Average per acre.
C.P.R. Land Grant, 1899	326,280	\$1,016,081	\$3 11
1898	222,135	757,792	3 13
Manitoba S.W.R. Grant 1899	90,526	311,586	3 44
1898	106,473	363,982	3 42
Total sales	416,806	1,327,667	3 19
1898	348,608	1,121,774	3 22

POSITION OF LAND GRANTS AT DEC. 31, 1899.

	Acres.	Acres.
Canadian Pacific—		
Original grant	25,000,000	
Surrendered to Government under agreement of Mar. 30, 1886	6,793,014	
	18,206,986	
Souris branch land grants	1,611,520	
	19,818,506	
Sales to Dec. 31, 1899	4,228,284	
Less cancelled in 1899	19,841	
	4,208,443	
Quantity unsold		15,590,063
Manitoba South Western—		
Total grant	1,396,800	
Sales to Dec. 31, 1899	417,690	
Less cancelled in 1899	5,084	
	412,606	
Quantity unsold		984,194
Columbia & Kootenay—		
Total grant	190,000	
Sales to Dec. 31, 1899	6,208	
	183,792	
Total land owned by the Co.		16,758,049

In addition to the foregoing the Co. will receive through the B.C. Southern Ry. about 3,350,000 acres. 4,228,443 acres sold, amounting to \$13,697,269 88 6,793,014 acres taken by Dominion Government 10,189,521 00

\$23,886,790 88
Less—Expenses, cultivation rebate, and 10% on land grant bonds retired and cancelled 2,998,631 52

\$20,888,159 36

Add—Proceeds Col. & Koot. Ry. land sales 1,895 45
Proceeds M.S.W.C. Ry. land sales 70,195 93

\$20,960,250 74

Comparative statement of earnings & expenses 1890 to 1899:—

	1899.	1898.	1897.	1896.	1895.	1894.	1893.	1892.	1891.	1890.
Passengers	\$7,098,096 70	\$6,538,589 58	\$5,796,115 12	\$4,820,143 30	\$4,683,137 74	\$4,840,412 33	\$5,656,204 90	\$5,556,316 40	\$5,459,789 46	\$4,774,713 76
Freight	18,738,882 96	16,231,444 93	15,257,896 94	13,187,560 31	11,877,851 95	11,445,377 78	12,673,075 38	13,330,540 19	12,665,540 26	10,106,644 02
Mails	618,385 19	609,974 57	603,210 49	607,543 98	540,116 18	498,129 16	496,134 49	483,922 68	516,098 45	356,038 61
Express	662,960 52	615,631 43	530,749 65	460,201 90	387,605 93	342,472 20	333,975 39	302,259 34	288,633 25	260,268 43
Parlor & sleeping cars	441,647 54	455,345 07	361,777 38	303,688 48	302,637 63	331,719 69	380,470 10	331,202 73	303,545 09	268,096 76
Telegraph, grain elevators & miscellaneous, including profits on Pacific steamships	1,669,063 35	1,687,991 55	1,499,785 07	1,302,458 87	1,149,687 44	1,204,956 46	1,422,457 18	1,405,110 53	1,007,489 47	786,767 40
Total	\$29,230,038 26	\$26,138,977 13	\$24,049,534 65	\$20,681,596 84	\$18,341,036 87	\$18,752,167 71	\$20,962,317 44	\$21,409,351 77	\$20,241,095 98	\$16,552,528 98
Expenses	16,999,872 77	15,663,605 51	13,745,738 76	12,574,015 10	11,460,085 88	12,328,838 69	13,220,901 39	12,989,004 21	12,231,436 11	10,252,828 47
Net earnings	\$12,230,165 49	\$10,475,371 62	\$10,303,795 89	\$8,107,581 74	\$7,480,950 99	\$6,423,309 08	\$7,741,416 05	\$8,420,347 56	\$8,009,659 87	\$6,299,700 51

W. Whyte, Manager of the C.P.R. Western Lines, sailed from Vancouver May 7, on the R.M.S. Empress of China for Yokohama, on a pleasure trip. He is accompanied by John Burns, of Toronto.

C.P.R. Earnings & Expenses.

Gross earnings, working expenses, net profits and increases over 1899, from Jan. 1, 1900 :

	Earnings.	Expenses.	Net Profits.	Increase.
Jan..	\$2,152,071.32	\$1,460,501.71	\$ 691,569.61	\$ 74,035.75
Feb..	1,954,087.59	1,331,355.34	622,732.25	23,030.77
Mar.	2,294,786.97	1,495,685.73	799,101.24	67,272.19

\$6,400,945.88 \$4,287,542.78 \$2,113,403.10 \$164,338.71

Approximate earnings for April, \$2,461,000, against \$2,168,000 in April, 1899; increase, \$293,000.

SUBSIDIARY LINES.

DULUTH, SOUTH SHORE & ATLANTIC.— Approximate earnings for April, \$206,518; increase over April, 1899, \$35,813.

Net earnings for Feb., \$77,157, against \$41,868 for Feb., 1899.

MINERAL RANGE, HANCOCK & CALUMET.— Approximate earnings for April, \$43,744; increase over April, 1899, \$15,881.

MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE.— Approximate earnings for April, \$414,169; increase over April, 1899, \$104,529.

Net earnings for Feb., \$142,973, against \$60,688 for Feb., 1899.

Canadian Pacific Railway Land Sales.

	Acres.		Amount.	
	1900	1899	1900	1899
Jan.....	31,486	14,718	\$ 100,857.85	\$ 46,411.35
Feb.....	23,613	13,747	75,771.19	43,371.69
Mar.....	31,183	24,045	97,777.79	75,460.76
April.....	58,457	36,626	181,775.78	116,835.84
	144,739	89,136	\$456,182.61	\$282,079.64

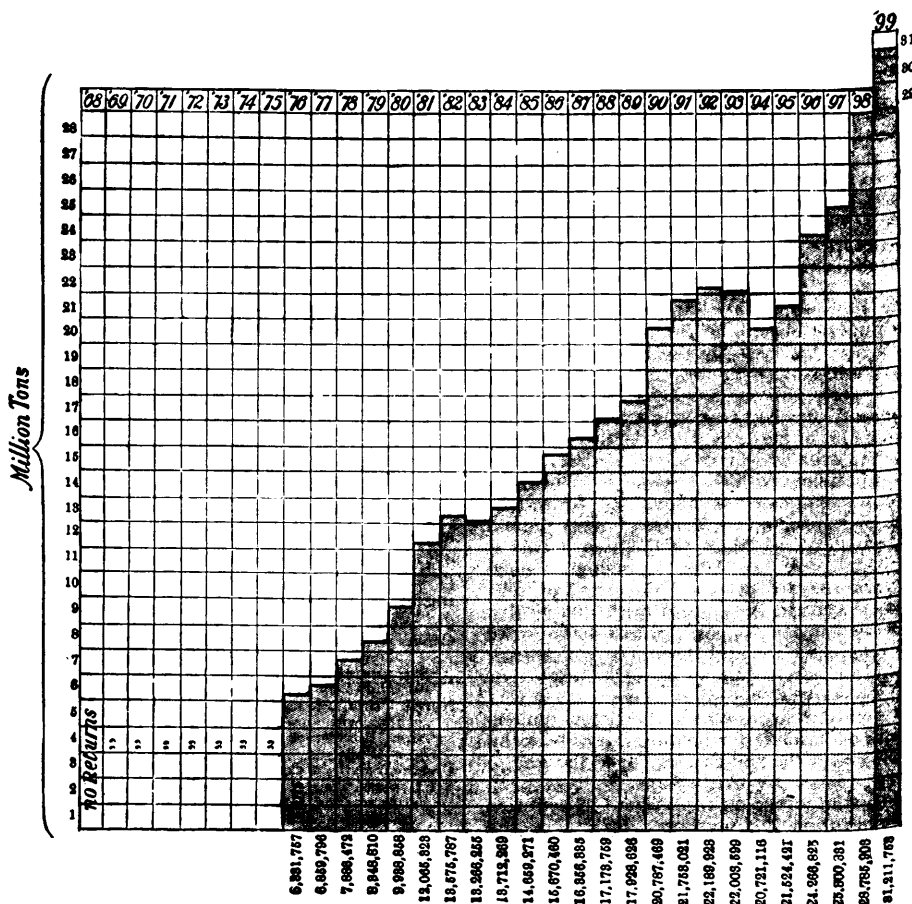
Grand Trunk Earnings, Expenses, &c.

The following statement of earnings supplied from the Montreal office, includes the G. T. of Canada, & the Detroit, Grand Haven & Milwaukee Rys., the earnings of the Chicago & G.T., which is in the hands of receivers, being omitted :

	1900	1899	Increase	Decrease
Jan.....	\$ 1,819,988	\$ 1,606,065	\$ 213,923	.....
Feb.....	1,587,923	1,505,549	82,374	.....
Mar.....	1,830,834	1,798,968	31,866	.....
April....	1,813,714	1,637,867	175,847	.....
	\$ 7,052,459	\$ 6,548,449	\$ 504,010	.....

FREIGHT TRAFFIC ON CANADIAN RAILWAYS.

The following diagram shows the number of tons of freight carried by railways in the Dominion for each year ended June 30 from 1877 to 1899.



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

TRAFFIC RECEIPTS OF THE SYSTEM.

Traffic receipts, Jan. 1 to Mar. 31 :

	1900.	1899.	Increase.	Decrease.
Grand Trunk.....	£1,032,273	£ 967,240	£ 65,033	.....
D., G. H. & M ..	44,178	41,782	2,396	.....
Total.....	£1,076,451	£1,009,022	£ 67,429	.....

The engagement is announced of W. Grant, of Ahearn & Soper, Ottawa, and son of Sir Jas. Grant, to Miss Katharine Hall, of New York.

H. Szlapka, formerly Engineer & Manager of the Hamilton Bridge Co., is suing R. M. Roy, Engineer of the Co., for \$5,000 damages, claiming that Roy issued a circular about him in Jan. which directly did him a serious wrong.

THE FAIRBANKS COMPANY.

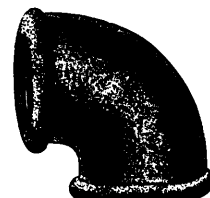
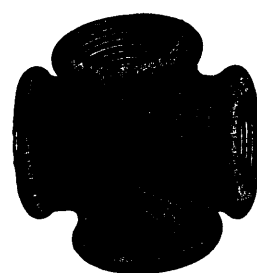
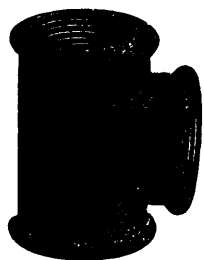
Pipes, Valves and Fittings.

We are Sole Agents for

The Dart Patent Union Coupling.

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749 Craig Street, = MONTREAL.



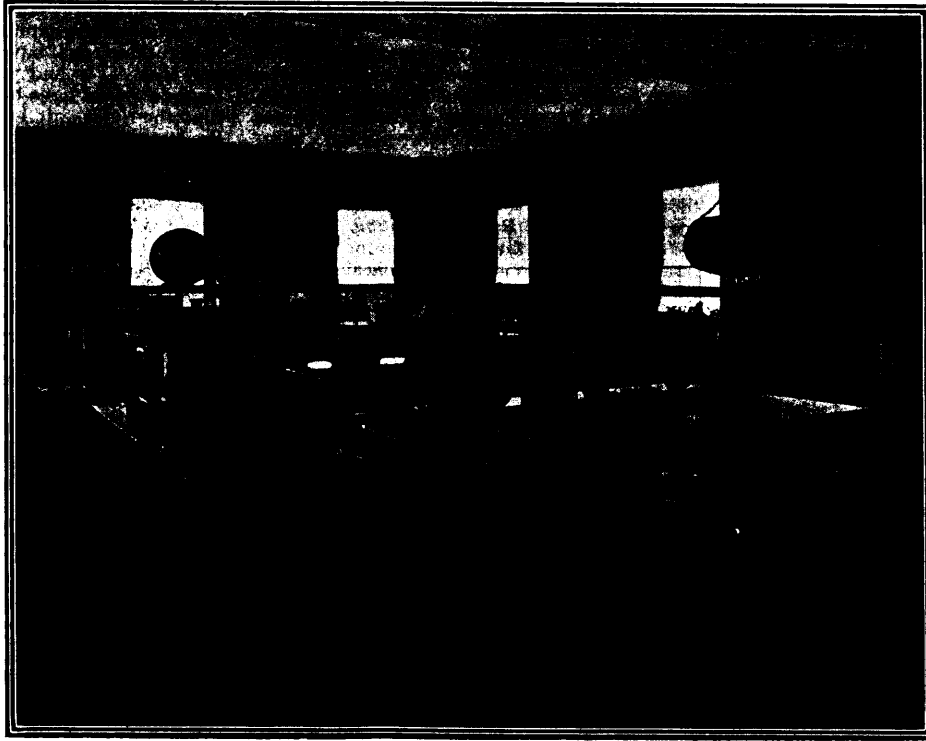
A G.T.R. Paint Stock-Room.

T. J. Hutchinson, Foreman Car Painter, G.T.R., London, Ont., has sent us a photograph of the paint stock-room there, which is reproduced on this page. He describes it as follows:—"The stock-room is 30x55 ft. long, & is well lighted & heated; also fitted up with a liberal supply of hot & cold water, & is connected with the sash room by a door at the end. At the front entrance a space of 6 x 14 ft. is allotted for the workmen to stand while being served over the counter by the stockman. At one end of this space are 2 gates through which barrels of supplies are received. Three of the large tanks, seen at the end of the room, contain freight & truck color & stand 3½ ft. from the shelving. These are equipped with air muddlers operated from the rear or wall side.

"Similar tanks on the right hand side contain our monthly supply of varnishes, Japan, turpentine, &c. Above these is a rack upon which we hoist the barrels to be emptied into the tanks below. The tables in the centre of the room are placed at right angles to the counter, with ample space between them. Upon the first is an elevated shelf upon which stand our small varnish cans. These are filled daily, weighed & marked for use the following day. Our color & varnish brushes are carefully kept by the stockmen in airtight receptacles so constructed that the brushes are suspended & the lid closes into a gutter in which turps is kept to the depth of ½ in. This is found to be quite satisfactory.

"On the second table are 3 carboys of 16-gallon capacity with syphons attached, which hold the mixture for our lead coats. These are made airtight with rubber corks & thumb screws fastening on top & the formula for each is shown on a tag secured to the carboy. By this method we are able to avoid some of the 'deviltries' & work with confidence as to results.

"In addition to what is shown in the illustration there is a case of drawers for holding stencils for freight & passenger car work, each kind kept in separate shallow drawers, the outside being lettered to show the contents. Alongside this is a vertical cleaning rack lined with zinc & fitted with a gutter at the bottom to hold the benzine used while cleaning the stencils. This gutter has a faucet at the end through which to drain off the benzine when the work is finished. All stencils are, therefore, properly cleaned before being stored away. There is also in successful operation a cast iron tank 2 ft. wide by 6 ft. long, heated with steam, for cleaning paint & varnish pots, with a cold water rinsing sink alongside. At the opposite corner there is situated a glass rack & cutting table, making our stock-room one of the most complete in Canada."



G.T.R. PAINT STOCK ROOM AT LONDON, ONT.

ful express engine of the 8-wheel type, with 8½-in. drivers.

An order has been given to build at the I.C.R. Moncton shops four 10-wheel passenger engines, 20 x 26 cylinders, 72" drivers, weight 145,000 lbs., tender tank capacity 3,500 Imperial gals.

An order was placed recently for 50 platform cars of 60,000 lbs. capacity for the Ontario & Rainy River section of the Canadian Northern. They will be equipped with automatic couplers & air brakes.

A few old passenger cars on the I.C.R. have been divided into three equal spaces, making one end 1st class, the other end 2nd class & baggage compartment in the centre. They are for use on branch lines & mixed trains.

The Baldwin Locomotive Works are now employing 8,000 men. This year up to Mar. 31, they turned out 310 locomotives, of which 40%, or thereabouts, are compound. This is at a rate of over 1,200 locomotives a

Railway Equipment Notes.

The St. Lawrence & Adirondack is having 2 locomotives built.

Four box cars are being turned out daily at the Canada Atlantic's Ottawa shops.

The Ottawa & Gatineau is said to have ordered 4 cars for excursion purposes.

Rhodes, Curry & Co., Amherst, N.S., are turning out 4 freight cars a day for the I.C.R.

Work will soon be started in the I.C.R. Moncton shops on the 120 box cars of which previous mention has been made.

It is expected that orders will be placed for the I.C.R. for about 500 box cars of 60,000 lbs. capacity, for this year's delivery.

A bill requiring the adoption of automatic couplings on railway cars has passed its second reading in the British House of Commons.

The Baldwin Locomotive Works has 2 locomotives at the Paris Exposition. One is a freight mogul & the other is a large & power-

year, & leaving out Sundays it is at the rate of about 4 for every working day.

It is understood the I.C.R. management is in the market for between 20 & 30 locomotives, mostly for freight service, which will be of the same size & capacity as those obtained last year from the Baldwin Works. The passenger locomotives will be similar to the ones about to be built in the Moncton shops.

The C.P.R. Western Division shops at Winnipeg have been very busy repairing locomotives & freight cars, which have got out of order through the heavy strain of winter work. The elevator companies are shipping more extensively from country elevators to Fort William since the opening of navigation.

During 1899 the Baldwin Locomotive Works built locomotives for 19 different rail gauges. They were 1 ft. 7½ ins., 1 ft. 9½ ins., 1 ft. 11½ ins., 2 ft., 2 ft. 6 ins., 2 ft. 6¾ ins., 2 ft. 11 ins., 2 ft. 11½ ins., 3 ft., 3 ft. 3 ins., 3 ft. 3½ ins., 3 ft. 6 ins., 3 ft. 8 ins., 4 ft., 4 ft. 8½ ins., 4 ft. 9 ins., 4 ft. 9½ ins., 5 ft., 5 ft. 6 ins.

In our Feb. issue, pg. 43, we gave extended extracts from specifications issued by the Great Northern Ry. of Canada, inviting bids for a lot of rolling stock. Jas. McNaught, of 35 Nassau St., New York City, appears to be placing the orders, but we have no definite information as to what has been done. He is said to have ordered a number of box, gondola, stock & refrigerator cars & to be figuring with the Baldwin Locomotive Works for locomotives.

The Minneapolis, St. Paul & Sault Ste. Marie has ordered 6 consolidation locomotives for delivery early in Oct. They will be 2 cylinder compounds, the cylinder dimensions not having yet been decided upon. They will weigh about 167,000 lbs., with about 152,000 lbs. on drivers. They will have 55 in. in diam. drivers, extended wagon

top type boilers, radial stays, steam pressure 210 lbs., charcoal iron tubes 2 in. in diam.; tank capacity for 6,000 gals. of water & 9 tons of coal. They will be equipped with Westinghouse air brakes, & Westinghouse friction draw gear.

The White Pass & Yukon is rapidly adding to its motive power & other rolling stock. Seven locomotives will be shipped north to Skagway by the middle of July, 120 cars are being built there & additional passenger coaches will be sent from the south. Three of the locomotives are simple consolidation for freight traffic, cylinders 16" x 20"; eight drivers 38" diam., 36" gauge; driving wheel base, 12' 9", total wheel base of engine 19' 9"; weight on drivers about 75,000 lbs., weight on truck wheels about 10,000 lbs., total about 85,000 lbs; straight boilers to work under steam pressure of 180 lbs.

At the recent annual meeting of the stockholders of the Richmond Locomotive Works the retiring directors & officers were re-

ected. The shops are rushed to their full capacity with work, & sufficient orders, it is said, are booked to keep the works busy for months to come. Extensive improvements are being made at the works, by which the capacity of the plant will be nearly doubled. There are now some 1,500 men employed, & more will be put on when the new buildings are completed. The largest of these will be the boiler shop, the dimensions of which are 45x72 ft., with a length of 32 ft. This will be filled with the largest & most improved machinery.

During the half-year ended Dec. 31, 1899, 13 locomotives were scrapped or sold, 10 passenger engines were built at the G.T.R. Co.'s Montreal works, & 9 compound consolidation locomotives were purchased. The actual stock on Dec. 31 was 806 engines. During the half-year, at cost of capital, 5 locomotives were supplied with driver brake & air brake equipment, 10 with driver brake, 19 with car warming equipment, 68 with train air signal equipment, & 120 with vertical plane coupler. At cost of capital 1,395 freight cars were equipped with automatic couplers & Westinghouse air brakes, 2 passenger cars were fitted with air signals, & 18 passenger cars were fitted with steam-heating apparatus. At cost of revenue 5 day coaches, 2 baggage cars, & 215 box cars were built at the Montreal shops.

Manitoba & Northwestern Railway.

President Shaughnessy, of the C.P.R., issued the following circular May 9:—"The M. & N. W. Ry. having been leased to the C.P.R. Co., it will after midnight, May 14, be operated as part of the Western division of that Co. All employes then in the M. & N. W. service will become employes of the C. P. R. Co., & will take their instructions from & report to the officers of that Co."

General Manager Baker, of the M. & N. W. R., issued the following circular on the same date:—"On the 15th inst. the lines of this Co. will become a portion of the C.P.R. system, & on that date the employes of this Co. will become employes of the C.P.R. Co. As my connection with the M. & N. W. R. Co. as its General Manager will cease at the same time, I cannot allow this opportunity to pass without expressing to those who have been associated with me for so many years my grateful thanks for the cordial assistance & support that I have at all times received during the varied phases of the Co.'s career; & my earnest hope for their future welfare & success."

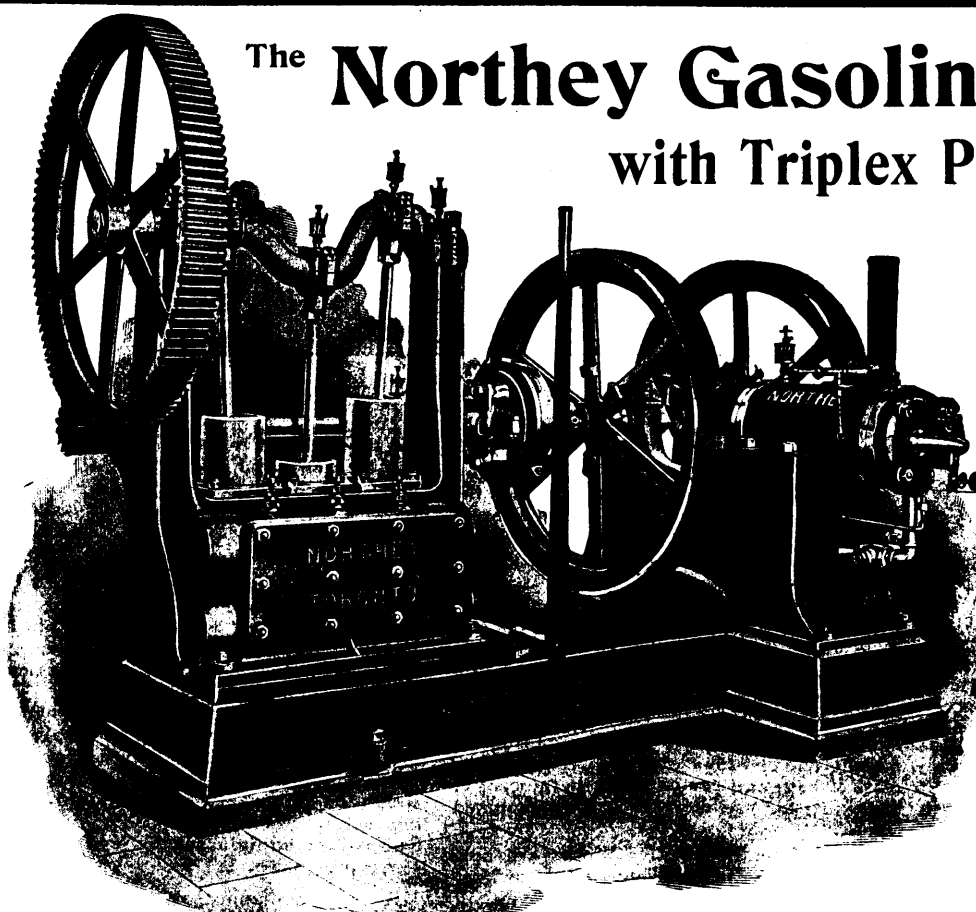
The M. & N. W. R. will be operated as the Northwestern branch of the C. P. R.'s Western division, under Manager Whyte & General Superintendent Osborne, & will be under the immediate charge of Superintendent James, whose jurisdiction includes the main trans-continental line between Winnipeg & Brandon & all the Manitoba branches, as well as the recently acquired Great Northwest Central line.

W. R. Baker, who has been appointed Executive Agent of the C.P.R. for Manitoba & the N.W.T., was born in England in 1852. He entered the railway service in 1873 as Local Freight & Passenger Agent of the Canada Central Ry. at Ottawa, since which he has been consecutively, Feb., 1881, to Sept., 1881, Local Treasurer & Assistant to General Superintendent Western Division C.P.R.; Sept., 1881, to May, 1882, Purchasing Agent Western Division C.P.R.; May, 1882, to June, 1883, Assistant to General Manager C.P.R.; June, 1883, to Sept., 1892, General Superintendent Manitoba & North-Western Ry.; Sept., 1892, to May, 1900, General Manager M. & N.W.R.

G. B. Reeve's Retirement.

The recent retirement of G. B. Reeve, General Traffic Manager of the G.T.R., from the Co.'s service, after being in it for 40 years, was made the occasion of a series of presentations & entertainments, which bore eloquent tribute to the esteem in which he is held by the Co., by its other officials & by the public generally. The principal officials of the Co. entertained him at luncheon at the Windsor Hotel, Montreal, presenting him with a solid silver dinner set of 10 pieces, & an autograph album containing the signatures of the 101 subscribers. General Manager Hays gave a dinner in Mr. Reeve's honor at the Mount Royal Club, Montreal, at which a number of the most prominent officials of the G.T.R. & of the Central Vermont were guests. And, lastly, the Montreal Board of Trade entertained him at dinner at the Windsor Hotel, some 200 being present. In the course of his reply to the toast of his health, Mr. Reeve said:—

"The G.T.R. was built up by foreign capital; it was not built up by subsidies from the provincial & federal governments. At that time they were unknown. It was entirely through foreign capital that the G.T.R. was inaugurated, & I have no hesitation in saying that if it had not been for the G.T., Canada would have been at least 20 years behind the times. It is true that I have spent the last 40 years in the service of the G.T.R. It is also true that I do not regret that service. It is further true that some years ago I had some doubts of my continuation in the service, but I always had faith in the old G. T., & always had very great faith in the future of Canada. I have always felt sorry that Canada & Canadians generally did not appreciate the G.T.R. as they really ought to have done. The railway has done much for



The Northey Gasoline Engine
with Triplex Pump, for
Tank Duty.

We here illustrate one of our Triplex Pumps operated by the Northey Gas and Gasoline Engine for railroad tank pumping. The Northey Engine offers the best example of an easily operated—safe—inexpensive—handy power on the market. The pump used is an improved model of our Triplex Power Pump. This combination gives excellent results, and is built with a view to ensuring an ample margin of strength for heavy, continuous service. We have recently installed two such plants at Coteau Junction, Que.

Booklet and Catalogs on request.

The Northey Co., Limited,
1032 King St. Subway,
TORONTO, ONTARIO.

this country, though Canadians in investing their capital can hardly be blamed for holding the G.T.R. in disfavor, in consequence of no revenue returns in past years. It is now, I am glad to say, in that position where it is on a paying basis. The time is now arrived when I shall assign myself to different service, & I trust that in the new service in which I am to confine myself, I shall be more useful than I can anticipate I should be in remaining in the service of the G.T.R. My service in connection with the G.T.R. was inaugurated in May, 1860, & on April 30 I shall have completed 40 years of continuous service with that Co., & nothing would have given me greater pleasure than to have worked 10 years longer under the most able management & the most kind-hearted General Manager that any railway official ever had the opportunity of serving under."

Mr. & Mrs. Reeve left Montreal May 1, in a private car, for La Pomelo Ranch, La Mirada, California, where they will reside in future.

A Weed-Burning Car.

E. A. Williams, Mechanical Superintendent of the Minneapolis, St. Paul & Sault Ste. Marie Ry., has favored us with photographs & drawings of the weed-burner used on that line, from which the illustrations on this page are made. In the construction of this weed-burner use is made of an ordinary flat car, on the front end of which (as it runs in service) is mounted an upright 30-h. p. boiler & pair of 7x10-in. engines. By means of sprocket chain connection between the engine shaft & car axle the car is made self-propelling. After some experience it was found necessary to connect the second axle of the truck with the first, or that driven by the engine, by means of a sprocket chain, in order to overcome slipping due to the lopping of long weeds over the rails. By this means of locomotion a speed of from 10 to 12 miles an hour is easily made, as when running for stations to meet passing trains. The water supply for the boiler & for extinguishing fires which may be caused by the machine is shown by figure 1, while the arrangement of the machinery are shown in figure 2.

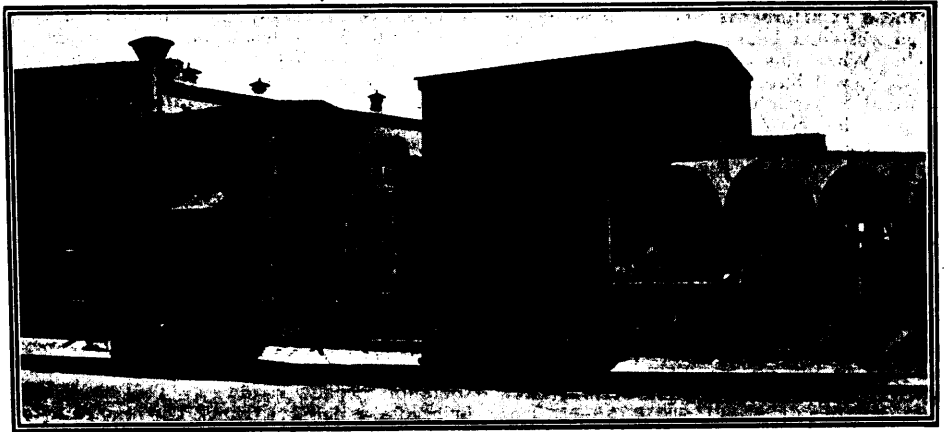


FIG. 1.—WEED-BURNING CAR, M., ST. P. AND S. STE. MARIE RY.

The burner shield, which is made of iron plate, covers the track around the burners, & serves the three-fold purpose of protecting the car from the heat of the burners, protecting the flame from the wind, & in confining the heat to the immediate vicinity of the ground surface. The shield has flaps, front & back, adjustable by chains attached to counterbalanced levers. There are 6 burners in all—4 being between the rails & one outside of each rail. The burners stand 15½ ins. apart, from centers, the burners outside of the rails being 7¾ ins. from the center of the rail. The details of these burners are made sufficiently clear in figure 3, it being understood, of course, that the burner, as used on the machine, stands in the vertical position.

The car is operated by two men: one to fire the boiler & run the engine & another to operate the burners. From 10 to 13 miles of track are burned over per day, & on an average about 20½ gals. of crude petroleum are consumed per mile of track burned over. Ordinarily the track is burned over only once during the season, but if the burning is not started until late in the summer, or where the weeds have got a good start, or where the growth is particularly heavy, it is sometimes found necessary to burn the same ground over twice during the season.

With reference to the cost of operating, the following statement of the performance of the car in burning over 722 miles of track during the season of 1899 gives the various items in detail: Total cost, including wages, \$253.49; oil, 14,768 gals., at \$.0389; coal, 93,150 lbs., at \$.282 a ton; & repairs, \$121.87, was \$1,081.17, or \$1.50 per mile. The average quantity of oil used per mile was 20.45 gals. This description is reproduced from the Railway & Engineering Review, to which it was furnished by Mr. Williams.

Grand Trunk Betterments, Etc.

A movement is on foot to secure an extension of the Montreal & Province Ry., which runs from St. Lambert to Farnham, Que., 32 miles, & is leased by the Central Vermont. The proposed extension would go via Stanbridge east & Frelighsburg to the boundary between Quebec & Vermont.

Contracts have been awarded for the roofing, metal work, carpentering, hardware & painting of the general office building on McGill st., Montreal. The masonry contract was awarded last year.

The enlargement of the St. Annes & Vaudreuil bridges, & the duplication of the track

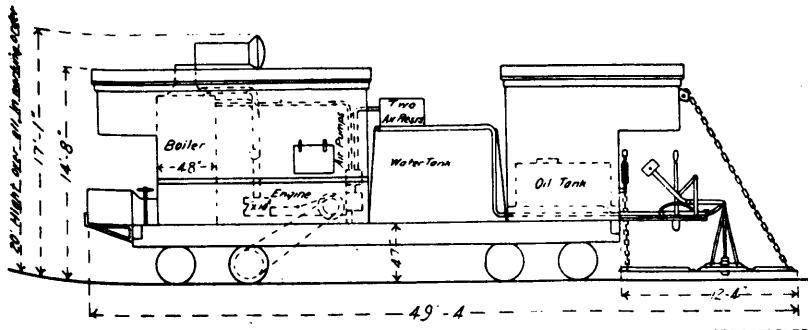


FIG. 2.—ARRANGEMENT OF MACHINRY IN WEED-BURNING CAR.

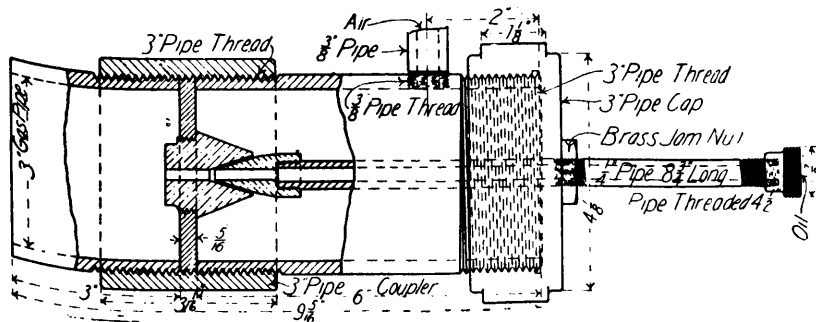


FIG. 3. DETAILS OF WEED-BURNING CAR.

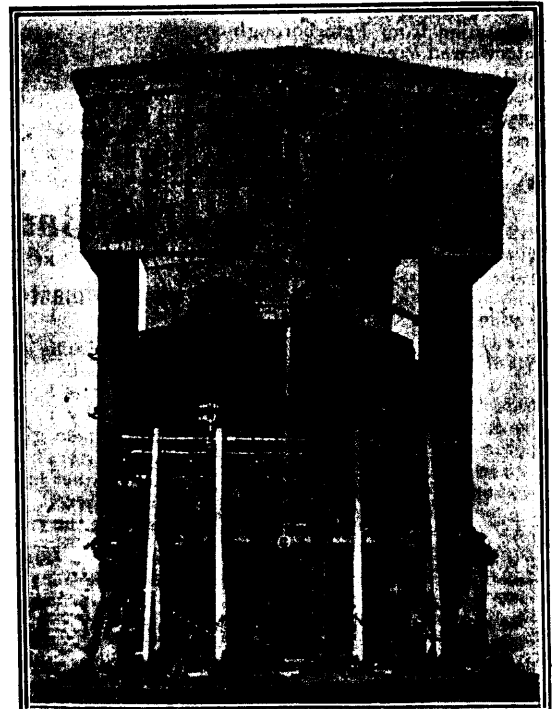


FIG. 4.—END VIEW WEED-BURNING CAR.

on these structures is about completed, & trains will soon be running over the second track. When this improvement is finished the G.T. will have a double track between Montreal & Toronto, with the exception of the 46 miles between Port Union & Port Hope. Some day the Co. intends to lay a double track between these points, but it is not included in the improvements which are to be carried out in the immediate future, & the company will have a large force employed this summer in improving the road bed on the eastern division. A great deal of ballasting & other work is now going on in order to bring the road bed up to a first-class condition after the wear & tear of the winter.

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

McAdam Jet. Station.—Work has been commenced on this building, which will be a handsome 2½ story structure of McAdam grey granite, with Welsford Red Granite corners, which will make a pretty contrast in color. It will be 133x36 ft., with a basement 60x36 ft., in which will be located the coal cellar, kitchen, larder, scullery, laundry, drying room & boiler room. On the ground floor will be the lunch room & dining room, which will form part of the hotel, & ladies' & general waiting rooms, toilet rooms, ticket office, baggage & express rooms. The first floor will be divided, half being taken up by the hotel accommodations, which will consist of 7 bedrooms, parlor, reading & writing room, bath room & closets. On the other end of this floor, & separated from the hotel, will be the offices of the superintendent & staff, train despatchers, train master & conductor's agent, freight & customs. The attic will contain 4 bedrooms for the hotel servants. A veranda will surround the entire structure.

Place Viger, Montreal.—The foot bridge leading from Notre Dame st. to the landing platform of the Place Viger station has been completed, & is open for traffic. Its construction has been much delayed by the difficulty in procuring steel. The completion of the bridge releases the last of the city's grant on account of the new station, hitherto withheld as security for the construction of this bridge, which is considered a great advantage by the people of the East ward.

Norwood to Apsley.—A short time since a deputation from Peterborough county, Ont., interviewed President Shaughnessy in regard to the construction of a branch from Norwood, on the Montreal-Toronto line, 18 miles east of Peterborough, to Apsley, in the northern part of the county, some 25 miles. It is

said Mr. Shaughnessy recommended the deputation to form a local company & obtain a charter, & said that if the usual Government subsidies were secured the C.P.R. would arrange to build the line & operate it. It is said steps are being taken to act upon Mr. Shaughnessy's suggestion. (Aug., '99, pg. 233.)

Toronto Terminals.—An additional freight shed, 38x600 ft., similar in construction to the present one, & a freight office, 40x85 ft., are being built. Both these buildings will be covered with galvanized iron. A roadway about 30 ft. wide is being made along the south side of the new freight shed. A new track is being laid along the north side of the new freight shed, & a new track from York st. bridge along the northerly limit of Lake st., & to the south of the new roadway. This track will be used as a delivery track. The other tracks will remain as they are, except that the present track to the south of the old freight shed will be shifted a few feet to the south to have it the proper distance from the proposed new track along the north side of the new shed. The present bonded shed, which is about 200 ft. long, & located south of the present freight offices, will be moved southward a few feet, in order to bring it in line with the new Freight Shed. These two sheds will then form one building 800 ft. long. (Feb., pg. 39, Mar., pg. 71.)

Parkdale.—A statement in a contemporary to the effect that a station is to be built at Parkdale to replace the present one is incorrect, at least as far as this year is concerned, no appropriation having been made for the purpose.

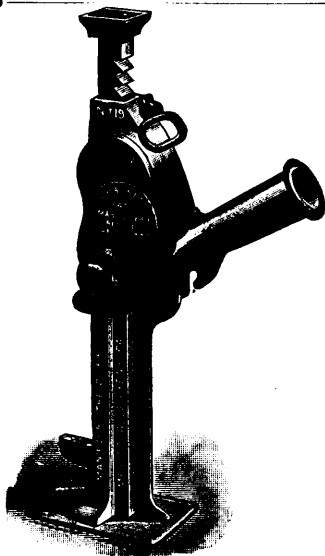
Ottawa Union Station, etc.—The disastrous Hull-Ottawa fire on Apl. 26-27, completely destroyed the Co.'s Union Station, freight sheds, etc., causing a loss on buildings of \$40,000. The Co. also lost 175 freight cars, valued at \$130,000, & freight valued at \$30,000. The illustration here given shows all that was left of the buildings.



Manager Tait, when in Ottawa a few days after the fire, said, in regard to rebuilding: "The proposed buildings will depend altogether on the assurance given the Co. by the city that it will be reasonably protected from fires. The Co. does not propose erecting costly buildings if they are to be surrounded by lumber piles & wooden shanties. If reasonable protection is guaranteed, the Co. is prepared to go ahead immediately with the erection of a station which will be a credit to the city & quite in keeping with the policy of the C.P.R. in building magnificent stations at all important centres. Arrangements have been made so that the station can be located quite convenient to the heart of the city. The freight sheds will be 3 or 4 times the size of those destroyed, & will be constructed with a view to the ornate in architectural design." General Superintendent Spencer has since shown the plans for the proposed new station, yard, etc. They provide for a building 250x50 ft., & 3 stories high. In style it will be similar to the Place Viger station at Montreal. There are two plans for the building, one of brick & stone, the other of stone. The 1st floor will be devoted to general waiting room, ladies' waiting room, dining hall, restaurant, baggage, etc., & the 2nd to offices. Behind the station will be 6 covered ways, ranging from 540 to 800 ft., & giving accommodation to 10 tracks. The passenger tracks will be entirely separate from the freight tracks, the latter coming in on what is now the main line.

Port Arthur.—The press despatch referred to in our last issue, stating that the Co.'s passenger & freight dock at Port Arthur was being re-built in view of the large trade in prospect, was incorrect. Some repairs are being done to no. 2 dock at the foot of Arthur St., but nothing further.

Fort William to Winnipeg.—The Port Arthur Herald recently said: "It is stated that the C.P.R. will construct another track from Fort William to Dexter at the height of land dividing the waters of Lake Superior from those that flow into Hudson's Bay. The new track will be of much lighter grade, & will follow the hills to the south of the present line the greater part of the way. It will follow the Kaministiquia valley so far as practicable, swinging in toward Kakakeba Falls. It is further stated that the present line will, where feasible, be used & the balance taken up. The object sought by the Co. is to secure a track of a light grade to the height of land in order that full trains may be taken to that point, instead of half trains as at present, & thus be on an equal footing with the O. & R.R. Ry., which will be able to pull full



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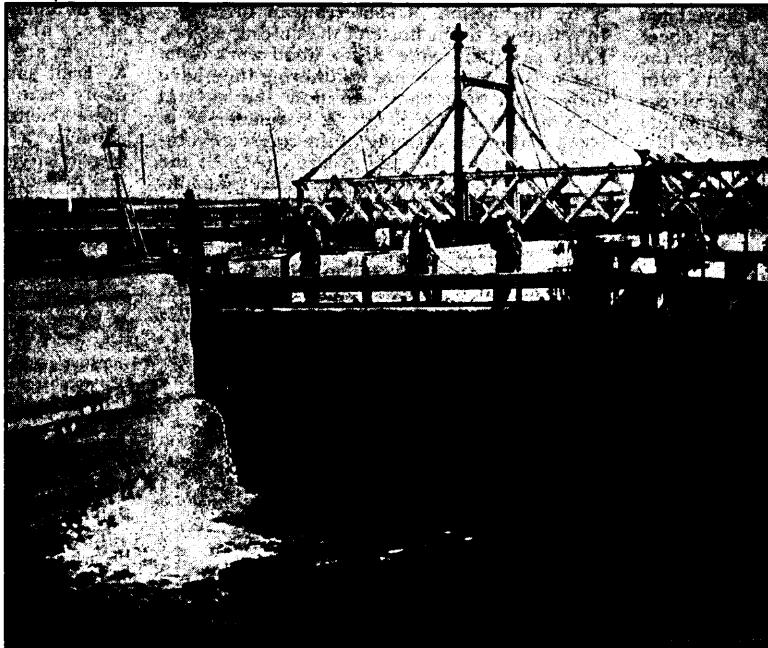
trains from end to end of its line." We are officially informed that a survey of the line between Fort William & Winnipeg is being made with the three-fold object of reducing grades, easing curves and double-tracking, & inasmuch as the engineers have practically only begun the survey & have not presented any report, the article quoted is, to say the least, premature. (Feb., pg. 39.)

McGregor-Varcoe Branch.—On May 5 we were advised that track-laying on the 28 miles from McGregor towards Varcoe, which was graded last year, would be commenced as soon as possible, but that nothing had been decided on in regard to any further grading this year. (Feb., pg. 39.)

Pipestone Branch Extension.—A recent press despatch from Regina, Assa., said information had reached there from a trustworthy source, that the Co. would at once continue the Pipestone branch up to that town. As stated in our last issue, it is the intention to continue the branch this year to a point between Arcola & Clair, Assa., south of Moose Mountain, but we have been unable to find any authority for the statement that the line will be continued further, or on to Regina, this year. (April, pg. 110.)

Crow's Nest Pass Ry.—A report made by G. R. L. Fellows, Superintending Engineer of this line for the Dominion Department of Railways, on the work done last year, contains some interesting information. Following are extracts: "The second division of the contract, which requires that portion of the line from the south end of Kootenay Lake to Nelson, B.C., to be built before Dec. 31, 1900, was not sufficiently revised in its location to warrant the work being put under contract construction & owing as well to the wet & stormy effects of the past spring & summer weather on the constructed portions of the line, necessitating the holding of all labor to finish & give increased strength to the roadbed, so as to put it beyond all possibility of disturbance from such extraordinary severe rains as has this year been experienced, the consensus of opinion giving a decade to such visitations. Since my last annual report, the finishing up of the work of construction has been vigorously carried on in the face of trying weather, it being nearly continuous into Sept. Following are some of the results of the season's work: Previous to my last annual report the line & its sidings had rails laid over it from Lethbridge to Kootenay Lake, 26% being 73 lbs. to the lineal yard, & the balance 56 & 60 lbs. This year the Co. has laid steel guard rails around maximum curves which terminated or ran on to bridges & trestles. Three trestle bridges have been added to the structures required to pass extreme freshet water, between Pincher & Cowley sidings. In a number of cases extra end bracing of trestles has been done in addition to the standard design requirements, as well as being increased in length where the ends of embankments had suffered from rain, scour & shrinkage. The concrete to support Howe truss span bridges, as well as where it is used in guard piers & river ice-breakers, has shown no weakness or unstable qualities at any point. The bridges yet to be permanently supported with this artificial stone are well

advanced; their completion before the end of the season is practically assured. Permanent riprapping of all concrete structures is going on, those in the larger rivers having been attended to & now about completed. I am pleased to say that under this year's (1899) severe test, have any of the culverts, trestles or bridges failed to do their designed work. The last of the temporary trestle filling, which is at the east approach of the Elk River bridge, is well advanced & nearing completion. A commencement has been made at the filling in of permanent trestles. Where some of them are used, the original surface of the depression crossed has had the appearance of natural drainage, but having been severely tested during the year & given no sign of drainage being required, the Co. is filling them in, the desire being to make as much solid embankment as it is possible to build. Where temporary trestles have been filled, the embankments are being made much wider than is required in the contract, the ballasting as the consolidating goes on being very full. This work is in progress & about completed.



UPPER GATES ON LOCK 24, NEW WELLAND CANAL, THE SCENE OF THE DYNAMITE OUTRAGE ON APRIL 21, SHOWING WATER RUSHING THROUGH THE BREACH CAUSED BY THE DYNAMITE, AND REPAIRS COMMENCED.

At all points near the Michel Creeks, Elk River & Duck Lake embankments that were likely to be touched by extreme high water, strong riprapping made from the large boulders that have accumulated in coarse gravel cuttings, and which were drawn to the work by train service, has been built during the season.

"All passenger stations, sectionmen's houses, repair & machine buildings are well designed & suitable for an enlarged traffic. Elevated coal pocketed chutes & water tanks of 40,000 galls. capacity have been built at terminal points that are much beyond the present needs, in anticipation of an increased traffic. Large ice-houses were erected & filled during the past season. They store ice in quantities that cannot be used should the business of the road increase to four times its present volume. Additional freight sheds have been built to accommodate the fast increasing requirements demanded at established growing centres. The line is now fully served at the terminal points with the best standard turntables, as well as having auxiliary turning locations served with wyes. Among the appurtenances

added during the season are oil buildings, sand houses, well equipped with drying apparatus. Supply railway store buildings & large commodious boarding houses have been put up, all of them being attractive in design & creditable in all respects. The requirements, as specified in the contract for buildings, have been more than filled over this line.

"As the rise in the water of Kootenay Lake, in extreme years, has been known to reach 32 ft. from its low water stage, the Co. has driven cluster piles on the upper side of the trestling that carries the line across the south end of the lake to its western terminus, so as to prevent the structural work being reached by any drift wood or floating objectional bodies. This system of protection has been used liberally around the ends & approaches of the transfer slip, which is situated at the main channel of the river discharge, with satisfactory success. In excess of the stipulated clearing, according to contract, already done, the Co. has cut down during the past season various areas of timber at several points, over soils that are composed of clay gumbo, which

is near & extends across the line of railway. This was done with a view of lessening the severe action of a sudden freshet, by giving the Chinook winds full play to minimize the depth of snow during the winter months, thereby leaving very little to be removed when the melting weather occurred. Experience, owing to the severity of rains that this newly constructed railway has been subjected to, has shown the necessity of changing the prism side lines in similar soils where the physical features are different as they are on this long line of prairie & mountain railway. The reducing of slopes & making wider bases in cuttings, now about completed, necessitated during the past season the concentration of almost all available labour at this work, as well as at the roadbed proper, when composed of light prairie or clay gumbo soils. Although the season's work has been an expensive one, carrying on this work, it has resulted in the embankments being strongly consolidated having extra width, better

slopes than diagram lines asked for in the contract, with the formation bases liberally covered with ballast & to a much greater depth than specified in the agreement. Among some of the various soils that the cuttings have been made through, flatter slopes have had to be given to ensure permanent solidity & safety. Between Lethbridge & Macleod the cemented material that had to be blasted owing to its hard & compact nature has stood well with its sharper slopes than $1\frac{1}{2}$ to 1, the only weakness shown being in the loosened & fractured portions caused by the dynamite when liberating the prism contents, which eroded slightly through the force of the rain storms, the cleaning up of which was satisfactorily completed during the past season.

"In all cuttings east of the Crow's Nest station, where composed of firm, dry compact soil, the slopes that were taken out less than the general slope of $1\frac{1}{2}$ to 1, have where they seemed weak been flattened and put beyond doubt as to their security and permanency. At present between Pincher & Cowley stations an outcrop of treacherous clay in the cuttings west of the South Fork of the Old

Man River is having a further reduction given to its upper slopes. West of the Crow's Nest station quite a number of cuttings that classed as being composed of cemented material have shown weaknesses from clay and filtering sand layers cutting into the general mass, which compelled the widening of bases and reducing the slopes as much as is possible to allow without affecting the mountain sides along which these cuttings lay. This class of work is practically finished. Where gumbo or running clay composed the soil that cuttings were made through the study of its action under different climatic changes to secure lasting results to the road-bed, had to be kept up throughout the season. The most obstinate case dealt with was in the Michel Loop where a steam shovel had to be worked all winter & well on to the summer. This cutting was properly drained on top of its slope, had its prism excavated below formation & its base made double the width called for by the terms of the contract, & had good slopes, yet under the continuous rain of the season it required attending to in order to keep its hill slope from being troublesome to the tie bearing supports at the centre line. In other cases cuttings composed of this soil have been successfully treated by having 12 in. sheet piling driven at the foot of the slope on the upper side of the cuttings resulting in a firm bearing for ballast and track; in some places it liberated filtering water below formation thereby lessening the danger of slips or disturbance under the ballast. Where the soils at formation continue to keep moist, excavations below grade to the depth of 3 ft. have been made & broken stone packed in over the full width of the bottom or base, with satisfactory results.

"Since finishing the ballasting of the line,

the steam plant with its train service has been at work mainly in cuttings composed of the gumbo soils. Their work has been used in widening cuttings at grade & cutting off the lower slope to formation along river shores, the benefit of this treatment giving the shortest & quickest drainage to freshet water in bad seasons by means of deep cross drains & drain boxes below formation. In a great many cases where embankments have had to be made with a percentage of the clay soils from the adjoining cuttings, 12 in. sheet piling has been driven at the top of the slope of the low side with successful results. In the finishing work that has been carried on lately has been the proper sloping and extra widening of gravel cuttings suitable for ballast, in some of them the widening has been all on one side of the centre line with a view of reducing still further the curvature in anticipation of swifter speeds, the material excavated being liberally used to improve earth embankments & give extra lifts to the permanency of the track. Greater widths than specified by the contracts have been given to embankments at points where the original surface in their vicinity has shrunk, cracked or subsided, caused evidently by the action of subterranean drainage. In reference to the finish of the cutting slopes, I may say that owing to the good work done this season & the severe weathering they have undergone, that they are now the natural ones necessary for safety & permanency & come within the meaning of the clause governing the pitch. In the greater part of the finishing work over the shrunken embankments carried on by trains hauling from pits of the best ballast, the lasting & substantial character is assured.

"Lately a survey examination of the mountain spur which is near the junction of the east

& south branches of Michel Creek, that forced the using of sharp curvature on the operated line, has been made with a view of benefiting the alignment & its feasibility in point of cost, the principal work to be done being an open cutting composed of mixed soils & rock spurs.

"Since the line has been put into operation, 12 spur sidings have been laid to lessen the cost of loading commodities at mines, saw-mills & stock & hay centres. Since the branch line was built at Fernie to its mines, two others have been put under construction which will be put into operation before the end of the year. One runs from Cranbrook up the St. Mary's River to the Sullivan & North Star group of mines, & the other from Sparwood to the lately opened coal mines on the south side of the Michel Creek.

"Although the line has been in operation less than a year, coal mines at Fernie & Sparwood have been marketing their output & in a short time the newly developed Crow's Nest Lake coal mines will be in a position to ship its mined commodity.

"At different points on this railway seven sawmills are working steadily. The developing of mineral mines is being prosecuted with energy at many points near the railway, three of them are already shipping ore to the Nelson & Trail smelters & before the year is out as many more will be sending their output to these smelters. A concentrator of 150 tons capacity a day is now starting to work near Moyie City, another as well as a compressor are in course of erection in the same district. At Fernie, Cranbrook, Moyie City & Creston the population of these new business centres is established & in fast increasing, Fernie having at present about two thousand people."

C. P. R. LANDS.

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

- Lands in the Province of Manitoba average \$3 to \$6 an acre.
- Lands in Assiniboia, east of the 3rd meridian, average \$3 to \$4 an acre.
- Lands west of the 3rd meridian, including the Calgary District, generally \$3 per acre.
- Lands in Northern Alberta and the Lake Dauphin District, \$3 per acre.

TERMS OF PAYMENT.

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

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

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

- 160 acres at \$3.00 per acre, 1st instalment \$71.90, and nine equal instalments of \$66.
- 160 acres at \$3.50 per acre, 1st instalment \$83.90, and nine equal instalments of \$70.
- 160 acres at \$4.00 per acre, 1st instalment \$95.85, and nine equal instalments of \$80.
- 160 acres at \$4.50 per acre, 1st instalment \$107.85, and nine equal instalments of \$90.
- 160 acres at \$5.00 per acre, 1st instalment \$119.85, and nine equal instalments of \$100.
- 160 acres at \$5.50 per acre, 1st instalment \$131.80, and nine equal instalments of \$110.
- 160 acres at \$6.00 per acre, 1st instalment \$143.80, and nine equal instalments of \$120.

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

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

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

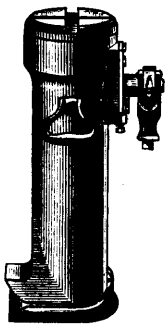
Write for maps and full particulars.

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

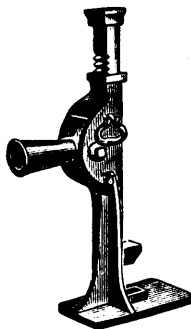
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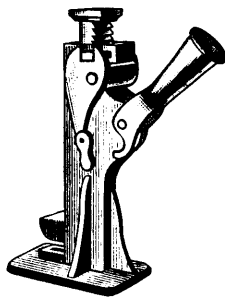
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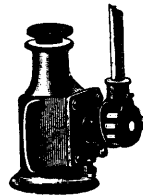
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RAILWAY DEVELOPMENT.

Projected Lines, Surveys, Construction, Betterments, Etc.

Notice is given that application will be made by the C.P.R. Co. to the Railway Committee of the Privy Council for approval of a plan showing the route of a tramway to be acquired from Kimberley, on the North Star branch of the B.C.S.Ry., southwesterly to the North Star Mine, of about 1½ miles.

Work is progressing rapidly on the Co.'s dock at Balfour on the west arm of Kootenay Lake.

Arrowhead & Kootenay Lake Branch.—On May 8 we were informed that no decision had been arrived at as to the work to be done this year. Grading was completed last year for 15 miles from Lardo, the southern terminus, & work was opened up for 20 miles further. (Dec., '99, pg. 350.)

Pacific Division.—A large amount of work will be done this season. Six steel truss bridges will be erected in the Kicking Horse canyon & on Mountain Creek; in addition there are in course of erection at Glacier & down the eastern slope of the Selkirks stone arches with spans of 60, 50 & 25 ft. respectively. An improved station will be constructed at Golden with additional sidings. This station will be a small first-class one, something like the buildings put up at Three Forks & Greenwood, on the Columbia & Western Ry. extension, with the addition of a section for the Commercial Telegraph Department, similar to what there now is at Donald, it being the intention to remove the telegraph staff from Donald to Golden as soon as the new building at the latter place is completed. All crossing sidings will be extended to a uniform length of 2,000 ft. clear. The filling of trestle work will be prosecuted vigorously, 4 steam shovels being employed all season in addition to numerous air dump cars. Masonry & box culverts are being constructed to provide waterways at bridges now being filled. Ballasting & improvements on track will be done, some 50 miles of new & heavier steel being laid. At Revelstoke a compressed air plant will be added for use in the shops & with connections in the yard for the purpose of testing air on cars, doing away with the necessity of detaining engines for this purpose upon the arrival of trains. There will also be erected there a 70-ft. turn-table, in place of the one now in use, & elevated coal chutes. The Rogers Pass station, shops & buildings will be removed a mile west of the present site & near the summit of the Selkirks. Small bridges between Golden & Palliser are to be done away with. The work commenced last year of renewing snow sheds will be continued until the greater portion of them have been replaced. Considerable work will be done cutting out trails for the summer resorts of Glacier & Field; from the latter a trail is to be cut to Wapta Falls, 12 miles.

The Vancouver & Lulu Island Ry., from Vancouver to the north arm of the Fraser River, 5½ miles, now under construction as a subsidiary line of the C.P.R., is to run entirely by electricity. Ordinary motor cars will be used both for passenger & freight, at any rate until the freight traffic assumes such proportions as will necessitate other equipment being put on. (April, pg. 111.)

Blessed is the man who expects much, even though he be disappointed! The colonist car fare for the 2,180 miles over the C.P.R. from Halifax to Winnipeg, is £2 10s. The longest consecutive railway journey in which the Londoner can indulge is from Euston or King's Cross to Wick, in Caithness. That is 755 miles, & the 3rd-class fare (no colonist car, mind you, with its sleeping berths) is £2 13s. 3½d. On this scale the fare from Halifax to Winnipeg should exceed £6 instead of £2 10s. Yet an intending emigrant writes to the C.P.R. Co. in London to know whether his £2 10s; ticket will not include "suisine" during the journey!—Canadian Gazette.

Algoma Central.—Under legislation passed at the recent session of the Ontario Legislature this Co. is to receive a land grant of 7,400 acres a mile for 200 miles of railway. In return the Co. binds itself to develop at least 40,000 horse-power at Sault St. Marie in addition to that already developed; to erect smelting & reduction works with a 300-ton daily capacity; to erect a pulp mill, in addition to that at the Sault, with a daily 50-ton capacity; to establish immigration offices at Toronto & in Great Britain; to place upon its lands each year for 10 years at least 1,000 male settlers aged eighteen or over; to establish & maintain not less than 4 steel ships of 2,000 tons each freight capacity for traffic between Michipicoton & the Sault. None of the pine timber nor spruce pulpwood on the land granted shall be exported in an unmanufactured condition. The Co. shall complete in 2 years chemical works suitable for using 5,000 horse-power for their operation. The Co. shall forfeit all right or claim to any of the lands granted in the event of failure to comply with the terms of the agreement. Settlers already on the land granted shall not be disturbed. The rates for passenger & freight traffic charged by the railway shall be subject to the approval of the Lieutenant-Governor-in-Council. (April, pg. 111.)

D. McGillivray, of Vancouver, B.C., has secured the contract for building the Co.'s ore dock at Michipicoton. It is said it will cost \$200,000.

The Canada Atlantic has completed its trestle near Cache Lake. The tracks at that point have been diverted for improvement, the old wooden trestle removed & masonry piers now support a steel superstructure. The bridge is about 500 ft. long & 60 ft. high.

The Co. will probably erect a paint shop in connection with its buildings at Ottawa East. The proposed structure will be about 300 x 70 ft. In addition to the painting department it will contain room for construction purposes & will materially add to the car building facilities of the road. It is likely that the shops at Elgin st. will be discarded in the near future in order that all the manufacturing buildings may be adjacent to each other.

See under head "Central Counties Ry." on this page.

Canadian Northern.—The Ontario & Rainy River Ry. & the Manitoba & South-eastern Ry. having been amalgamated with this line matters relating to them will in future be dealt with under this heading.

D. D. Mann recently stated that about 250 miles of the system between Port Arthur & the Great Saskatchewan will be built this season.

On May 1 we were advised that track had been laid on the Ontario & Rainy River section on the first 40 miles west of Stanley to Lake Shebandowan, and that ballasting with a steam shovel was in progress for 60 miles from the end of track. The heavy work was reported as about finished, & the grading generally about 75% finished. Piles are all driven on the first 80 miles, and there need be no delay in laying track to the end of the first 100 miles from Stanley as soon as rails can be got. (April, pg. 115.)

On the Minnesota & Manitoba section, between the Manitoba-Minnesota boundary & Rainy River, grading is going ahead & will be pushed to completion as soon as possible. R. Fowler is engineer in charge. (April, pg. 114.)

On the extension from last year's terminus, 220 miles from Gladstone Jct., towards the Great Saskatchewan, a large number of men are at work and grading is being pushed

ahead rapidly. M. H. McLeod, formerly of the C.P.R. Engineering Dept., is engineer in charge. (April, pg. 111.)

Carleton & Miramichi.—C. L. B. Miles, C.E., recently made a reconnaissance survey for a line from the C.P.R. at Bristol, N.B., to Foreston. The line follows the Shickede-hawk stream for about 4 miles & then climbs to a false summit 9 miles out. The real summit is 12 miles from Bristol on the St. John River, & beyond this real divide are the waters of the n. e. branch of the Miramichi river. M. Welch, the promoter, owns a sawmill at Foreston, & a valuable tract of hardwood timber in that place. Glassville, 16 miles from Bristol, is an important village on the line. The Co. procured a charter from the N.B. Legislature in March & is applying for a Dominion subsidy. (Mar., pg. 77.)

Central Counties.—The subsidy granted at the recent session of the Ontario Legislature to this Co. at the rate of \$1,200 a mile for about 7 miles between Rockland & Clarence Creek is not for a further extension, as a line is already constructed between the two points mentioned & is leased to the Canada Atlantic Ry., with the rest of the line from South Indian, & is operated as the C.A.R. Rockland Branch.

Central Ontario.—The directors do not appear to have come to any decision as to the extension of this line from Bancroft to the C. A. Ry. between Madawaska & Whitney, for which the Ontario Legislature granted a bonus at its recent session. (April, pg. 111.)

Great Northern, U.S.A.—The Cascade tunnel approaches completion, it being confidently expected that trains will be running through it by Nov. 1. It will do away with more than 12 miles of switchback & save nearly 1½ hours between St. Paul and the Pacific Coast—time that is now spent in climbing the Cascade Mountains. In a recent interview, Superintendent of Construction A. L. Andrews, said that the work was begun in Jan., 1897, and that all previous records in tunneling have been broken. Two camps are being worked, one at each end. The length of the tunnel will be 13,253 ft. They are now 4,700 ft. on the Wellington, & 4,300 ft. on the Cascade end. This leaves 5,253 ft. yet to be done. "We are working 750 men," he says, "& are driving about 10 ft. per day, at each end. Three shifts of 8 hours each work from either end, employing 14 drills each, & we are boring the hole by the bench, sub-bench & heading process. The hole will be uniform in size all the way through, 24 ft. high & 20 ft. wide. We are following up the drills with the concrete work; so that shortly after the hole is through, this portion of the work will be finished. There are 70 men on each shift to do the tunneling, about 150 employed at concrete work, & about 50 engineers and helpers." The highest point from the roof of the tunnel to the pinnacle of the mountain is 2,300 ft. In Nov. last 527 ft. were cut—which beats the best world's tunnel driving record, made at Stampede on the Northern Pacific, by 2 ft. The best week's work was 76 ft., which also is a record breaker. The total cost will be in the neighbourhood of \$3,000,000. As yet no one knows, except possibly Mr. Hill, how trains will be operated through the tunnel, but it is quite probable that eventually they will be run by electricity.

The Greenwood-Phoenix Tramway Co. having been incorporated under the B.C. Tramway Act, the preliminary survey for the line has been commenced. It is said the estimated cost of the line between Greenwood & Phoenix is about \$150,000, & for the whole line, including branches, about \$500,000. (Dec., '99, pg. 359.)

The Gulf & Manitoba Ry. is not, as its name would imply, a Canadian line. Its proposed termini are Duluth & Kansas City.

Kamloops Lake to Cariboo, etc.—Bodwell & Duff, solicitors, Victoria, give notice of application to the B.C. Legislature to incorporate a company to construct & operate a railway from, at or near, the outlet of Kamloops Lake, to the plateau of the Bonaparte River; thence to the Cariboo waggon road, near the 100-Mile House; thence to Williams or Antler Creek, Cariboo District; with a branch line to the confluence of the Quesnelle & the Fraser Rivers, & with other powers.

Lake Erie & Detroit River.—E. Johnson, C.E., representing the Dominion Department of Railways, has gone over the proposed route of this line between Ridgeway & St. Thomas, the Minister of Railways having been asked to cause the line to pass through the southern part of the county instead of paralleling the M.C.R. (April, pg. 114.)

Newfoundland.—R. G. Reid is interested in the erection of a modern first-class hotel, especially adapted to tourist accommodation, which is being built in St. John. It will have a frontage of 200 ft., & a depth of 86 ft.

The Northern Colonization Ry. Co., incorporated by the Dominion Parliament in 1899, has a subsidy from the Dominion of \$3,200 a mile for building 22 miles from the terminus of the C.P.R. Labelle branch at Labelle, Que., northwesterly to Nomingue, via Notre Dame de L'Annonciation, & also a subsidy from the Quebec Legislature of \$60,000, payable in 12 annual payments of \$5,000 each. We are advised that it has not yet been decided whether work will be commenced this year. Hon. J. D. Rolland, Montreal, is President of the Co.

Ontario, Western & Hudson's Bay.—R. Jaffray, J. K. Kerr, & others representing this

Co., waited upon the Ontario Premier recently & asked that the Government permit the transfer of \$1,000 a mile from the subsidy granted the Co. last session in order to secure the construction of a waggon road from Missanabie, on the C.P.R., to Moose Factory, Hudson's Bay. The Co. proposes if the application is acceded to, to run a weekly stage for five years from Missanabie to Hudson's Bay. In winter time sleighs will be run as far as Moose Factory. During the summer months a coach will travel to the head of Moose River, & from this point the Co. will operate two steamers to Moose Factory. The Premier promised a consideration of the application.

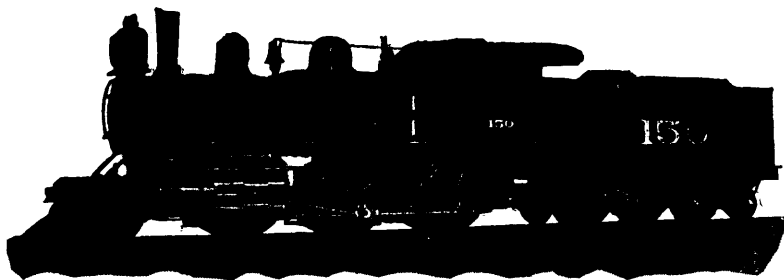
Ottawa & New York.—A recent press item stated that the car shops will be removed from Santa Clara, N.Y., to Ottawa, Ont., in a few months. We were officially informed on May 11, that the matter had not been decided & possibly would not be for a month or so thereafter.

Pontiac & Pacific Jet.—Work will soon be resumed on the extension of the line from Aylmer to Hull, which was built last year to Deschenes. (Feb., pg. 43).

Prince Edward Island.—On May 16, the wife of the Lieut.-Governor turned the first sod on the Belfast & Murray Harbor branch, on Mutch's Point on the south side of Hillsboro river directly opposite Charlottetown. (April, pg. 115).

Quebec Bridge.—The Quebec despatch mentioned in our last issue respecting the awarding of contracts for the construction of this bridge has been confirmed. The contract with W. Davis & Son, Cardinal, Ont., calls for the masonry of 4 piers & 2 anchorages.

Their work is to commence as soon as the engineering details have been arranged, which is expected to be about June 15. It is said their contract will amount to over \$1,000,000, & will take 2 years to complete. A contract has also been arranged with a company in the U.S. for the steel & as soon as the detailed plans are ready an order will be placed with it for the steel anchorages which will form part of the foundation. The bridge will require 27,000 tons of steel. It will be 150 ft. above the river, so that ships with the tallest masts can pass under it, & it will be 76 ft. wide. It will be built in 3 spans, 2 of 600 ft. each, & the center cantilever span of 1,800 ft. This span will exceed in length, not merely the two great suspension bridges across the East River at New York, but the celebrated cantilevers which stretch across the Firth of Forth at Queensferry. The Brooklyn bridge measures a few feet under 1,600 ft. between the towers; the new East River bridge between the same points of measurement will be exactly 1,600 ft.; the 2 main spans of the Forth bridge are 1,710 ft. in the clear. The bridge will contain 4 railway tracks, driveway, & walks on each side. It will take 3 years to turn out the structural material & erect the bridge, & in order to do the work much new machinery will have to be secured, & some of the shops will have to be enlarged & equipped for the work. In order to ship the structural material to Quebec special cars will have to be made to hold the massive beams & girders. It is significant that in spite of the oft-repeated statement that all subsequent bridges of this magnitude would be constructed on the suspension principle, the new Quebec bridge is to be of the cantilever type. The old objection of lack of stability which formerly held



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against suspension bridges has disappeared. The principles of the suspension type are better understood, or are better applied, than they were, & with the improved materials that are now available, it is possible to give suspension bridges of the largest size all the rigidity which can reasonably be asked for. As regards the question of economy, the cantilever is by far the more costly type, the difference in cost increasing at a multiplying ratio of the increase in length. In view of this fact it is probable that the adoption of the cantilever type at Quebec was due to the local conditions.

The Quebec City Council has granted a subsidy of \$300,000 to the Bridge Co. The money will be realized on 30-year 3½% debentures, & the conditions will be the same as exacted by the Dominion Government. (April, pg. 116.)

Quebec Central.—The steel bridge over the Etchemin river at St. Anselme was carried away by ice April 19. A temporary wooden structure has been erected in its place pending arrangements for a permanent steel structure.

Quebec & Lake Huron.—J. M. Nicol, Detroit, Mich., who is promoting this line, writes us as follows: There is no charter in existence, but application has been made to the Dominion Parliament for one, which we trust may be granted this session. The projected road is intended as an air line from the lakes to tide water. Our eastern terminus will be at Quebec, & the western at or near French River, on Georgian Bay. The line will follow a straight line as nearly as possible, between these two points, crossing the St. Maurice River at or near Grandes Piles, passing near the village of St. Michel des Saints, on the Mattawin River, crossing the River du Lievre at or near Rapide de l'Original, the Gatineau River in the vicinity of the village of Riviere Joseph, & the Ottawa River near the village of Mattawa, & touching Lake Nipissing on the south. For the major part of the distance the road will run through a practically level country, traversing a wilderness covered for the most part with forests of hardwoods & spruce, interspersed with a little pine. The rivers are precipitous & rocky, & unless the timber comes out by rail, it must remain forever where it is. With the building of this road, this timber will find a market, & the Provinces will derive an immense revenue from the sale of their timber on lands lying in proximity to the road. Then, again, unlike pine lands, these tracts, when cleared, have great value for agricultural purposes, & the Mattawin valley, through which the road will run, contains millions of acres of fine farming lands, which will be opened up to settlers, & the intention is to make of it a colonization road of no mean proportions. The road will not be in opposition to any existing lines. It will not come within 50 miles of either Toronto, Ottawa or Montreal, & consequently will not be a competitor for that business, nor for any other, excepting the through business, from Chicago, Duluth & the Northwest to tidewater, which is open to the world, & we should be no more of a competitor of the Canadian roads than of the American trunk lines & the canals for this business. (Mar., pg. 78.)

Rutland-Canadian.—We were recently informed that about 4½ miles of rock excavation & rubble embankment in the lake at various points along the line remain unfinished. In our Jan. issue a paragraph referring to this line read:—"The maximum grade outside of yard limits is 1° 30'." It is obvious that the word "curve" should have been used instead of "grade." (Jan., pg. 9.)

St. Mary's River Ry. & Colonization Co.—A bill is before the Dominion Parliament to incorporate a company under this name to build a railway from the Alberta Ry. & Coal Co.'s

line between Lethbridge & Stirling, Alberta, to the International boundary, also to convey or lease the line to the C.P.R. or Alberta Ry. & Coal Co., provided the Governor-in-Council consents.

The Sallsbury & Harvey Ry. Co. is applying to the Dominion Parliament for power to build the following branch lines in New Brunswick:—From Turtle station to Baltimore, from Baltimore siding to Moncton, and from Baltimore siding to or near Watter's oil works, Hillsborough. Also for power to purchase the railway, franchises, &c., of the Harvey Branch Line Ry. Co., & the Alma & Harvey Ry. Co. (Mar., pg. 74.)

Toronto, Hamilton & Buffalo.—Contracts have been let for the construction of a spur of 3¾ miles, starting from the main line near Trolley st., in the east end of Hamilton, & running northeasterly through the 2nd & 1st concessions of Barton township, thence westerly to between Wellington & Ferguson streets in the northwest part of the city, with a short spur to connect with the Hamilton Blast Furnace Co.'s siding. E. Goodale has the contract for grading, & M. A. Pigott the contract for the trestles over the Radial Ry. & Sherman Inlet, the work on these contracts to be completed on June 20 & May 15 respectively. (Oct., '99, pg. 297.)

Toronto Union Station.—In consequence of the absolute necessity of increased accommodation for handling baggage, it is probable that the baggage & express rooms on Station St. will be enlarged by building additions east & west.

Railway Committee of Privy Council.

A preliminary decision has been reached by the Railway Committee of the Privy Council, confirmed by the Governor in Council, on the complaint against the railway rates on coal oil. Following is the official announcement as made by the Government press:—"It will be remembered that about a year & a half ago the railway companies reduced their tariff on coal oil from Sarnia & Petrolea to Montreal & other points east which were open to competition by water. The rate originally charged from Sarnia was 35c. per 100 lbs. on oil, but after the Standard Oil Co. had acquired the refineries at Petrolea, & had re-established the business of refining at Sarnia, it prevailed upon the railway companies to reduce the rate to between 20c. & 21c. The reason assigned for this was that the Standard Co. was contemplating putting on boats for the carriage of oil to Montreal & other points accessible by water. At the same time the railway companies raised the rate from Table Rock, Suspension Bridge & other points in the U.S. to Montreal & other centres in Canada from 23c. to 35c. They justified their action in doing this by alleging that the rate was too low, & that in any case they desired to make up the loss which would be entailed upon them by the Sarnia reduction. The effect of this reduction from Sarnia & the increase at points along the Niagara border was to restrict the importation of oil from the U.S. in competition with the oil produced at Sarnia, & thus to give the Sarnia product the control of the Canadian market. Consumers of oil became very much incensed at this, & to it attributed the rise in the price of oil, as well as the discrepancy in the cost on the U.S. side of the line as compared with this. They lodged a complaint of illegal discrimination before the Railway Committee of the Privy Council against the railways. After several hearings & some delay, owing largely to the requests of the complainants themselves, and their inability to arrange their case & secure evidence, the question has been finally determined against the railway companies. The Railway Committee came to the conclusion that the only practical remedy

available was to reduce the railway tariff on oil. They made a report & recommendation to Council accordingly. The effect is to leave the rate from Sarnia untouched, while the rate from U.S. points to points in Canada is reduced to the figure of 23c., as it originally was, based on mileage."

Passenger Traffic Matters.

The Chicago, Rock Island & Pacific Ry. has issued a folder about the through sleeper via this line between Chicago & San Francisco, which contains a map alternated with streaks of shade, up & down, indicating the country passed through in daylight & the sections traversed by night.

Commencing June 4, a through service will be run between Levis (Que.) & St. John, N.B., over the Quebec Central & C.P. railways, via Megantic, leaving Levis 6.45 p.m., daily except Saturdays, arriving at St. John 11.50 a.m., daily except Sundays, & leaving St. John 4.10 p.m., daily except Sundays, arriving at Levis 10.00 a.m., daily except Mondays. This time will be changed somewhat about June 25, when new time bill takes effect. First-class coach & sleeping car passengers will be carried in through cars without change between Levis & St. John. Rates from Montreal & points west to St. John, N.B., & points east will be the same as via C.P.R. short line through Maine; rates to points on C.P.R. direct line west of St. John, N.B., will base on Quebec or Levis, but not exceed St. John rates. Until Sept. 30th tickets from Montreal or west to St. John, N.B., or east or vice versa, reading via C.P.R. short line through Maine will be exchanged for tickets via Quebec & Megantic, provided C.P. coupon is so endorsed by selling agent.

Commencing June 11, the C.P.R. transcontinental train service will be very much quickened. The "Imperial Limited" trains will run daily between Montreal & Vancouver, crossing the continent in each direction in about 4 days. Westbound trains will leave Montreal 9.30 a.m., reaching Vancouver at 1.10 p.m. on the 4th day. Eastbound trains will leave Vancouver at 1.10 p.m., reaching Montreal at 6.10 p.m. on the 4th day. Service between Toronto & North Bay in connection with the above will be daily.

At Fort William the new trains will connect with the Co.'s Upper Lake steamships plying tri-weekly between Fort William, Sault Ste. Marie & Owen Sound, & at Moose Jaw close connections will be made with the trains of the Soo-Pacific route from & to St. Paul & Minneapolis, shortening the time materially between those cities & the Pacific Coast. Trains on the Crow's Nest branch will connect closely at Dunmore Jct. with the Imperial Limited, east & west bound, affording the most direct service from & to the Kootenay country. There will be a through sleeping car between Winnipeg & Kootenay Landing, to & from which passengers for & from points east of Winnipeg will be transferred at suitable hours. Charge for berths on Co.'s steamers between Nelson & Kootenay Landing \$1 each. Dining cars will be run between Montreal & Banff, meals west of that point being supplied at the Co.'s chalet hotels, Field, Glacier & North Bend. Dining cars will be run on Crow's Nest branch. Passengers holding 1st-class tickets between Dunmore Jct. or points east, & Revelstoke or points west on or reached via the main line, will be given the option of travelling either via the main line through Calgary & Banff, or via the Crow's Nest branch, Nelson & Robson, or via Nelson, Slocan City & Roseberry.

It is reported that the Wabash road, after paying employes by check for a long time, will resume the use of the pay car.

Ontario Railway Aid Conditions.

Following is the complete text of the "Act respecting certain railways," passed at the recent session of the Ontario Legislature, & numbered chap. 28:—

1.—(1) Every subsidy heretofore granted out of the Consolidated Revenue Fund of this Province in aid of any railway shall as to any part thereof which is still unearned, & all subsidies hereafter granted to any railway out of the said fund, in addition to all other lawful requirements shall be subject to any conditions which may hereafter be imposed by order of the Lieutenant-Governor in Council respecting the toll to be charged to persons known as "settlers" or "prospectors" using any such subsidized railway or any part thereof, in connection with their prospecting & settling in the district in this Province through which the railway runs, either for freight or passenger service, & in default of compliance with the said conditions, or any of them, there may be deducted & retained from any monies payable in respect of such unearned subsidy or hereafter granted subsidy such amount as the Lieutenant-Governor in Council may think proper, & the railway company or any assignee of a railway company claiming such subsidy shall not be entitled to receive payment of the same, or if such subsidy shall have been paid over prior to such default the company operating such railway shall forfeit such part thereof as may be determined by Order in Council, & the same may be recovered back from such company with full costs of action at the suit of the Attorney-General of this Province in any court of competent jurisdiction.

(2) The words "settlers" & "prospectors" shall respectively be construed to include any person who shall have produced evidence to the proper officer of the said railway that he is an intending settler or prospector, as the case may be, in the district through which such railway runs, which evidence shall be deemed sufficient if it complies with the requirements of any Order in Council in that behalf, & the said words shall also mean & include every member of the family of a settler or prospector residing with him using such railway, or any part thereof, in connection with such prospecting & settling.

(3) The expression "toll" shall include any rate or charge for any passenger, ani-

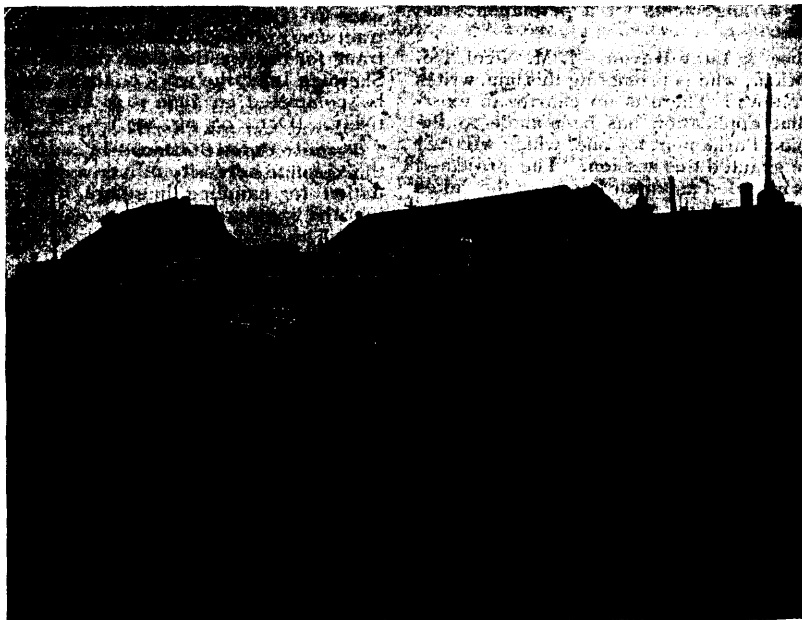
mal, carriage, goods, merchandise, matter or thing conveyed on the railway.

2. Every such unearned subsidy or hereafter granted subsidy, shall further be subject to the condition that the workmen, laborers, or servants employed in or about the construction & operation of the railway in aid of which such subsidy is granted, shall be paid such rate of wages as may be currently payable to workmen, laborers & servants engaged in similar occupations in the district in which such railway is constructed & operated & upon breach of such condition by the railway company there may be deducted & retained from any monies payable in respect of such unearned subsidy or hereafter granted subsidy such amount as the Lieutenant-Governor-in-Council may think proper, & in case the subsidy shall have been paid over before such breach, such part thereof as may be determined by Order-in-Council, may be recovered back from the railway company to

which the same was granted with full costs of action at the suit of the Attorney-General of the Province in any court of competent jurisdiction.

3. Every railway company receiving any subsidy either of money or of lands under any Act of the Legislature of Ontario, after the passing of this Act, or any railway company heretofore receiving any subsidy either in money or in lands, part of which is still unearned, shall, as far as practicable, construct, equip & operate their lines of railway with railway supplies & rolling stock made, purchased or procurable in Canada, providing such railway supplies can be obtained as cheaply and upon as good terms in Canada as elsewhere, having regard to quality & price, & unless the Lieutenant-Governor-in-Council shall approve of the same being procured elsewhere.

4. No person shall be employed in the construction of any railway receiving a subsidy



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either in money or in lands who is a citizen or subject of any country having an Alien Labor Law which practically excludes Canadians from employment on the public works of such country or in other works therein. Any company employing laborers as aforesaid, shall be liable to a penalty of \$20 per day for each person so employed during the whole period of such employment.

5. This Act shall be read with & as part of The Railway Act of Ontario, & of any Act respecting aid to railways passed during the present or any future session of this Legislature.

The operators on the Intercolonial have settled their differences with the management. A new schedule was given them in July, 1899, & they claimed that some of the terms were either couched in ambiguous language, or upon important concessions required, the document was silent. Early in Aug., '99, General Manager Pottinger issued a circular notifying them that employes temporarily out of the service from any cause whatsoever, would forfeit their wages for the length of time they were absent. This was objected to & in Mar. a delegation waited on Mr. Pottinger & asked for two weeks' holiday yearly with full pay, & that train dispatchers be placed on schedule. Complaint was also made that some men had been promoted out of seniority. President Powell & 1st Vice-President Dolphin, of the Order of Railroad Telegraphers, went from St. Louis to Moncton & Ottawa in connection with the matter, & after numerous interviews with Mr. Pottinger & the Minister of Railways, Mr. Dolphin made the following announcement: "The matters under dispute between the I.C.R. & its agents & operators have been adjusted to the complete satisfaction of the men. The settlement includes the restoration of the two weeks' vacation yearly with full pay."

ELECTRIC RAILWAYS.

Maritime Provinces & Newfoundland.

Fredericton, N.B.—F. B. Coleman is endeavouring to arrange for the construction of an electric railway in Fredericton.

Halifax Electric Tramway earnings, not including lighting receipts:—

	1900	1899	Increase.
Jan.	\$11,475.40	\$8,704.78	\$2,770.62
Feb.	8,982.41	7,531.43	1,450.98
Mar.	9,765.83	8,576.83	1,189.00
April.	9,359.13	8,461.27	897.86
	\$39,582.77	\$33,274.31	\$6,308.46

Quebec Electric Railways.

Hull Electric Co.—A special meeting has been called to confirm agreements with the Deschenes and the Ottawa electric companies. It is said that the Hull Co. will absorb the Deschenes Co., or in the event of the two companies remaining separate, the Hull Co. is to have equal privileges in using the Deschenes water power for the purpose of generating electrical power. The personnel of the two companies is practically the same, and the amalgamation, if effected, will be settled for by the Hull Co. issuing paid up shares to the Deschenes Co. in return for the water power. As to the agreement with the Ottawa Electric Co., it is said that litigation as to rights to operate in Hull are to cease, & that a definite understanding has been reached as to the basis of future operations.

The Montreal Park & Island Ry. has remodelled and painted all its large open summer cars, making them very handsome in appearance. It has also built additional cars to add to its summer rolling stock. The Company has also inaugurated a freight and parcel

delivery over all its lines, to and from any part of the city.

Montreal St. Ry.—The gross earnings are:

	1899-1900.	1898-1899.	Increase.
Oct.	\$145,877.20	\$133,619.63	\$12,257.57
Nov.	133,489.12	125,125.09	8,364.03
Dec.	137,681.19	127,768.38	9,912.81
Jan.	136,086.33	125,276.04	10,810.29
Feb.	122,509.04	113,838.02	8,671.62
Mar.	127,212.18	123,754.11	3,458.07
April.	133,475.42	130,495.97	3,069.45
	\$936,331.08	\$879,787.24	\$56,543.84

Judge Davidson has decided against the City of Montreal in its suit against the Co. to recover \$21,050.87 which the City alleged was due for a stated period for percentage on the gross earnings of the Co. The Judge stated that the action depended upon the answer which must be given to the following question: "Is the defendant bound to pay to the City a percentage of the gross revenues earned by those parts of its lines which are situate without the limits of the City of Montreal?" The Judge, having quoted clauses of the contract between the City & the Co. & the by-law, said that these required the Co. to pay the stipulated percentages "upon the total amount of its gross earnings arising from the whole operation of 'its said railway.'" The interpretation to be given to the expression "its said railway" was found in section 1 of the by-law & article 1 of the contract which declare that the Co. shall establish & operate an electrical railway "in the city." This was a geographical limitation, so precisely expressed that there is no room for inference or presumptions to destroy the plain meaning of plain words. Did doubt exist, the contract would need to be interpreted, as regards the payment of percentages, in favor of the Co. which has contracted the obligation & in like manner uncertainty with respect to the extent of concessions granted by the city would be resolved in its favor. It is furthermore a well-known interpretative principle that a contract extends "only to the things concerning which it appears that the parties intended to contract." The outside lines of the Co. are operated by virtue of franchises which the local municipalities have conceded & for which they exact consideration in one form or another. The City of Montreal can give no title in respect of them, & while no doubt competent to exact a tribute on their earnings in payment of its own concessions would need to express that right in language of great certainty. Much stress was laid upon the facts that the offices, shops & power houses of the Co. must be located in Montreal. This provision only applies to the lines covered by the by-law & contract that is to lines "in the city." The Co. is fully entitled to locate shops & power houses for outside lines wherever it chooses. Suppose, for example, that defendant absorbed the railways of the Park & Island Ry. Co. with their full equipment of power houses & other working accessories, situate far beyond the city limits, can it be maintained that these would need to be abolished & all motive power drawn from within the city? Reference to these outside independent railways which run to Lachine, the Back River & elsewhere, suggests an illustration which may be effectively used in this case. As is well known a separate fare is collected for the distance from the city limits to Lachine or to the Back River. To sustain plaintiff's present pretensions would be to commit the Court to the doctrine that these outside collections would be subject to the city's import. At the argument, the judge asked counsel what the Co.'s obligations would be if it built a line to St. Johns or to Longueuil, or even to Quebec. Counsel for the City could not, in the interest of consistency, avoid the assertion that according to the true intendment of the 36th article of the contract, a percentage of the earnings of all these lines would be exactable. Marked difficulty was felt in maintaining a

like position, if a gap or a half-mile, or 100 ft., or even a single rail separated the systems within & without the city. These were features of the controversy which deserved serious consideration & required a practical solution. A passenger steps into a car in Montreal. His one fare carries him to any point, either in the city, or, if he wills, in any contiguous municipality to which the line extends. "We may be certain," continued the Judge, "that the extra distance is not travelled for nothing, but it is a plausible argument that this fare, certainly paid & apparently earned within the city limits, should be, to its full extent, subject to percentage. Take, however, the converse of this example: A passenger steps into a car in, say, Westmount, and in manner accustomed forthwith pays his fare. He may not enter the city at all, or he may, if he chooses, travel over its lines without extra charge. Thus here is compensation of both traffic & argument. The loss to the city is nominal rather than real, for every mile of suburban roads indirectly adds to the revenue on which percentages are payable." The exact amount to which the city was entitled was ascertained by an easy process of railway arithmetic certified as correct by Messrs. Ogden & Robb. These experts certified to the correctness of the method employed. Giving effect to these opinions, the Judge then dismissed the City's suit with costs.

The Quebec Ry. Light & Power Co. does not publish its monthly earnings, but furnishes quarterly statements to the city of the railway earnings within the city limits, exclusive of the earnings in the outside municipalities. The car earnings in the city for Oct., Nov. & Dec. last were \$30,336.

Ontario Electric Railways.

Fort Erie to Chippawa.—The Ontario Legislature has passed an act confirming the agreement between the commissioners for the Queen Victoria Niagara Falls Park & the Fort Erie Ferry Railway Co. respecting the construction of this line. (Apl., pg. 123.)

Galt, Preston & Hespeler Street Ry.—We are officially informed that John Patterson, of Hamilton, of the Cataract Power Co., etc., has made an agreement to purchase a controlling interest in this line by June 1, & has made a payment on account.

Hamilton Consolidated Lines.—The wages of the motor men & conductors on the Hamilton & Dundas line have been increased about 10%.

The night car which is being run on the Hamilton St. Ry. as an experiment is said to be paying expenses.

A communication from J. Patterson, on behalf of the Cataract Power Co. was recently submitted to the Hamilton City Board of Works. Among the changes asked are the granting of permission to the Hamilton & Dundas Ry. to run freight & express cars, the track on Aberdeen avenue to remain in its present position, permission to run the cars on Herkimer & James streets, & to put in a curve at the corner of James & Gore streets to connect with the Radial Ry., & to remove the tracks on Hannah, McNab, & Main streets. It is stated the Co. proposes to extend the Radial Ry. to Oakville. The Co. asks permission to put in a curve at Barton street & Birch avenue, so as to extend the tracks to the smelting works, & to have the privilege of running these cars on Barton street instead of Wilson street, also to put down "T" rails on Sandford avenue, and extend the track above King street, to put in a loop at the foot of Stuart street to deliver people on the platform of the G.T.R. The Co. proposes to build a loop line from Wentworth street via Ida street & Sherman avenue. The Co. asks that no mileage be

charged on the new lines, that the mileage on the Sandford avenue line be remitted, that the assessment on the general system be fixed for a term of years, and that there be a rearrangement of the percentage.

London St. Ry.—On May 1 the Trades & Labor Council declared a resumption of the boycott against this Co. which had to be abandoned last winter. It is not expected to meet with success.

Metropolitan Ry.—The fight between this Co. & the City of Toronto over the proposal to connect the Co.'s line with the C.P.R. at North Toronto, for which permission was asked of the Ontario Legislature, resulted in a compromise. The Co. consented to withdraw the bill on the condition that Mr. Hill, M.P.P., would withdraw until next year the clause in his street railway amendment act, which stipulated that electric roads must not charge more than 2c. a mile. Mr. Hill opposed the Co. during all its appearances before the Legislature last session, & when he introduced his street railway bill

it was known to be aimed at the Yonge st. line. Another provision of the settlement is that the Government will next session introduce a measure repealing all present legislation, and making general laws for electric railways.

The Niagara Gorge R.R., between Lewiston & Niagara Falls, N.Y., was reopened May 1.

The Ottawa Electric Ry. Co. came out of the recent Hull-Ottawa fire in very good shape. The Co.'s old power house was destroyed, but the new power house, in which a 2,000 h.p. generator had just been installed, received only slight damage to the roof. The generator itself was uninjured, & is in full operation. The Co.'s service was interrupted for only 3 or 4 hours. The cars were in operation on the evening of the day of the fire. In the burned district the only machinery moving or able to move on the day after the fire was that in the Electric Ry.'s new power house & two of the power houses of the Ottawa Electric Light Co. It is likely

that the Electric Ry. Co. will duplicate its present new power house on the site of the old power house.

Preston & Berlin Street Ry.—We are officially informed that the work on this line will be started during May, with the intention of completing it this year. (April, pg. 125.)

St. Thomas Electric Ry.—M. B. Thomas, formerly Manager of the Hamilton & Dundas Electric Ry. has been appointed Manager of this line.

Toronto Railway.—Gross earnings:

	1900	1899	Increase.
Jan.....	\$113,703.96	\$95,690.12	\$18,013.84
Feb.....	103,954.19	91,860.10	12,094.09
Mar.....	117,631.21	103,234.88	14,396.33
April.....	107,198.63	95,212.37	11,986.26
	\$442,487.99	\$385,997.47	\$56,490.52

Verner to Lake Temagaming.—It is said a survey has been commenced for an electric railway from Verner on the main line of the C.P.R. 34 miles west of North Bay to Lake Temagaming, a distance of about 30 miles, through a beautiful country, which should become a favorite resort for tourists.

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RICHARD SOUTHAM, MANAGER

NOTICE is hereby given that an agreement between the Ontario & Rainy River Railway Company & the Canadian Northern Railway Company (the company formed by an amalgamation between the Manitoba & South-Eastern Railway & the Canadian Northern Railway Company), dated the 3rd day of May, A.D. 1900, for an amalgamation of those two companies under the name of "The Canadian Northern Railway Company," was duly entered into pursuant to the provisions of chapter 80 of the Statutes of Canada for the year 1899, & that such agreement has received the sanction of the Governor in Council by Order in Council dated the 4th day of May, A.D. 1900, & that a duplicate of said agreement was on the 4th day of May, A.D. 1900, filed in the office of the Secretary of State of Canada, and this notice is given pursuant to subsection (3) of section 4 of said Act.

J. M. SMITH,
Secretary,
The Canadian Northern Railway Company.

NOTICE is hereby given that an agreement between the Manitoba & South-Eastern Railway Company & the Canadian Northern Railway Company, dated the 28th day of April, A.D. 1900, for an amalgamation of those two companies under the name of the "Canadian Northern Railway Company," was duly entered into pursuant to the provisions of chapter 75 of the Statutes of Canada for the year 1899, & that such agreement has received the sanction of the Governor in Council by Order in Council dated the 2nd day of May, A.D. 1900, & that a duplicate of said agreement was on the 3rd day of May, A.D. 1900, filed in the office of the Secretary of State of Canada, and this notice is given pursuant to section 3 of said Act.

J. M. SMITH,
Secretary,
The Canadian Northern Railway Company.

CANADA SOUTHERN RAILWAY COMPANY.

THE Annual General Meeting of the Canada Southern Railway Company, for the election of Directors, & other general purposes, will be held on Wednesday, the 6th day of June, 1900, at the hour of eleven o'clock in the forenoon, at the Company's Head Office in the City of St. Thomas.

NICOL KINGSMILL,
Secretary C. S. Ry. Co.
May 1st, 1900.

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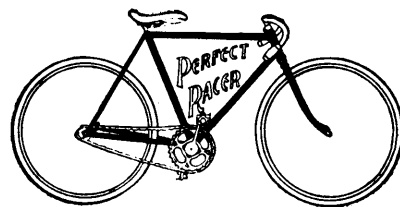
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Ontario Electric Railway Legislation.

The Act respecting mortgages by electric railway or street railway companies, of which a summary was given in our last issue, pg. 123, was passed by the Ontario Legislature & has become law as chap. 32 of the statutes of 1900.

The Act to amend the Street Railway Act, chap. 31 of the statutes of 1900, is of such importance that its provisions are given in full as follows:—

1. Section 18 of the Street Railway Act is amended by adding thereto the following subsections:—

(4) The company, when operating any portion of its line by means of electricity, shall use on the front of each motor car used by such company a fender of a class to be approved by the Engineer of the Department of Public Works of Ontario. Provided that the company shall not be found to furnish or use any such fender until the expiration of the period of six months after the said engineer shall in writing have signified his approval as aforesaid.

(5) The company when operating any motor car upon its railway shall have at least two men engaged thereon, so as to collect the fares & also to look after the public safety, & stop the car for intending passengers.

2. In case any street railway, electric or other railway, has been heretofore, or shall hereafter be, constructed in any municipality under an agreement with the council thereof, or of the council having the control of the road, street or highway therein, & the locality, or any part of the locality in which said road has been, or is constructed, is subsequently to the making of such agreement, removed from one municipality to another, or the road, street or highway along which the said street railway has been or shall be constructed, has ceased to be owned or controlled by one municipality, or the council thereof, or by any council having the control of such road, street or highway, & has become vested in or has been placed under the control of another municipality or the council thereof, then so far as such agreement relates to the maintenance & repair of the track & roadbed of the railway or the remaining portions of the highway or highways over which the railway is operated, & to the removal of snow & ice from the company's track & the disposal of such snow & ice upon the highway or elsewhere the corporation of such last mentioned municipality & any officer or person designated by by-law thereof shall be substituted for & shall have all the right & may exercise all the powers & be subject to the same duties as the municipal corporation party to such agreement & any officer or person named therein & charged with the performance of any duty in respect to the matters aforesaid thereunder.

3. The conductors of every street railway, electric railway or other railway company heretofore & thereafter incorporated & operated by any other motive power than steam shall carry & exhibit if required in every passenger car a table of tolls or fares to be collected or taken for the carriage of any passenger.

Electric Lines in Western Canada.

British Columbia Electric Ry.—A general meeting was held in London, Eng., April 25, to consider a resolution for increasing the capital from £370,000 to £450,000 by the creation of 8,000 new preference shares of the nominal value of £10 each, to rank pari passu with the 12,000 preference shares of the like nominal value already issued. R. M. Horne-Payne presided, &, in proposing the resolution, said that practically the whole of the Canadian shareholders, as well as a large number of English shareholders, had sent

their proxies to the board. It was especially gratifying to receive the support of the shareholders in Canada, as they had opportunities of judging of the merits of the enterprise, & of the way in which the management had fulfilled their duties, which the shareholders in this country could not have. The present demand for extra capital was entirely owing to the great success which the Co. had met with, both in the railway & the lighting departments. The number of lights which the Co. were supplying on April 1, 1899, was 32,000, whereas at the end of Feb. 1900, it was 45,000, & there was little doubt but that the figure was 46,000 on Mar. 31, the date at which the financial year of the Co. ended. The board were not in full possession of particulars with regard to the past financial year, but it would not be far from the mark to say that the net earnings amounted to \$200,000, approximately £40,000, as compared with £33,000 in the previous year. On the last occasion on which the capital was increased, in Nov. 1898, it was necessary to apply to the public, but this time there would be no need to do so, as the shareholders would themselves take up the new shares. The works undertaken with the proceeds of the last issue of preference capital were considerably delayed in their completion by the great activity in the iron & steel trade, which rendered it most difficult to get orders fulfilled within a reasonable period. The plant which the Co. now had was amply sufficient to deal, during the summer months, with the business which had been accepted, but the demands for lights was steadily growing. It was, therefore, necessary to provide against the heavier demand which would be made on the Co. in the winter, & a little more electric plant was also wanted on the railway. Provision having been previously made for additional steam power, all that was now required was the actual electric lighting machinery. The expenditure necessary to enable the Co. to meet the demands of the coming winter was calculated at about £16,000, which was just 5% on the issued capital, but the directors had considered it prudent to ask for power to increase the capital by £80,000, from time to time, as business improved. He had no doubt that the profits would increase in proportion to the advance in the capital. The resolution was carried unanimously.

The Co.'s net earnings for Feb. were \$11,620, against \$9,237 in Feb., 1899. The net earnings from April 1, 1899, to Feb. 28, 1900, were \$184,683, against \$150,212 for corresponding period.

The pay roll of the Co. averages \$10,000 a month.

The Co.'s new electric power house in Vancouver is about completed. The main building is 90 x 120 ft., with roof supported on steel trusses, 96 ft. span, thus leaving the floor free from all posts & obstructions. The following machinery has been installed: One direct connected unit for operating the railway lines. This unit consists of a cross compound engine capable of developing 800 h.p. The generator is attached directly to the engine & consequently the armature revolves at the same speed as the engine, 90 revolutions a minute. This unit is capable of supplying a current to operate 50 cars. Directly alongside this unit a similar engine is directly connected to a 10,000 light incandescent alternating current generator. A 700 h.p. double tandem compound Wheelock engine will supply power to the arc light dynamos & will also carry the incandescent lights & power station after midnight. While the average load of this power station closely approximates 600 h.p. at the peak of the load the output can be increased to over 3,000 h.p. The new machinery is all of modern design. The condensing apparatus is situated in the centre of the building & ample space is left for future extensions. Condensing water is obtained from False Creek, & during low tide sufficient water is

impounded by a dam, to run through from one tide to another. The building is practically fire-proof, & concrete floors, marble switch boards & all other accessories usually found in a modern power plant. The cost of the new plant & buildings exceeds \$150,000.

The Co.'s new station & power transformer building on Columbia & Front streets west, New Westminster, is also about finished. On stone & pile foundation the building is of brick, metal covered, & encloses an area of 132x66 ft., about half of which is enclosed for offices & the transformer plant, the other half running right through from Columbia to Front st. being used for car storing, & general transportation under cover & at the Front st. end are two 40 ft. pits for car repairing. The front of the depot on Columbia st. is well lighted & conveniently arranged with various offices of liberal capacity. These are the superintendent's private office & ticket office, a room for the use of conductors & motormen, a general waiting room, 42x30 ft., & the Great Northern Ry. offices. The transformer room is 50x20 ft. The freight house is 70x20 ft. The roadbed on the street between the curved double tracks is solidly planked with 4 in. stuff & the front & back car entrances are furnished with sliding doors, so that the station may be closed up entirely when required.

It is said the Co. has made a proposal to the Vancouver Jockey Club regarding the construction of a race course at Central park, midway between Vancouver & New Westminster, an excellent place for race meetings.

Vancouver & Lulu Island Ry.—See pg. 143.

Winnipeg Electric St. Ry.—A. Mitchell, heretofore in charge of the Co.'s power house, has been promoted to the position of Electrical Superintendent.

"Scrap Iron Assessment."—A bill to abolish the system of assessment of plant, &c., of electric railways, telegraph, telephone & other companies was introduced at the recent session of the Ontario Legislature by a private member, but was rejected by the Municipal Committee by a large majority, the Premier having stated that a commission will be appointed to consider the whole question.

A high-speed electric railway is to be built between Brussels & Antwerp, 28 miles.

Electricity is to be tried on the Chemin de fer de l'Ouest, which is one of the principal steam railway systems of France. The Co. has decided to operate its suburban service from Paris to Versailles by electricity, abandoning the use of steam locomotives & substituting electric motors. The largest power station in France will be erected at Moulinaux, equi-distant between Paris and Versailles, to furnish the current which will operate these trains.

RAILWAY APPOINTMENTS, Etc.

Algoma Central.—It is said that G. H. Cook, heretofore engineer in charge of construction on the Southern Indiana, will take charge of extension work on the A.C.R.

Canadian Pacific.—W. B. Lanigan, Traveling Freight Agent, has been appointed Assistant General Freight Agent, with office at Toronto.

J. G. Taylor, one of the train despatchers at Cranbrook, B.C., who has had a large experience in & is thoroughly familiar with the standard rules, has been appointed as instructor in them. He is succeeded at Cranbrook by E. L. Chudleigh, one of the despatchers at Calgary, who in turn is succeeded at Calgary as a despatcher by Alex. Allan, for

the past few months chief clerk to the General Superintendent at Winnipeg, & previously for some 5 years Car Service Agent at Winnipeg, in charge of the Western division car records.

W. R. Baker, heretofore General Manager of the M. & N. W. Ry., which has been leased by the C.P.R. Co., has been appointed Executive Agent of the C.P.R. in Manitoba & the N.W.T., in connection with matters outside of the operation of the Railway & the Construction & Land Departments. His special duties will be designated by the President. This is the second appointment of this nature in the C.P.R. service, the first one being that of G. McL. Brown, who is Executive Agent for B.C.

D. G. Ross has been appointed Assistant Superintendent of the Brandon section & Manitoba branch lines, with headquarters at Winnipeg.

Central Vermont.—G. B. Reeve having resigned to retire from active business, the office of General Traffic Manager has been abolished. J. W. Loud, Freight Traffic Manager of the G.T.R., has also been appointed Freight Traffic Manager of the C.V.R., in charge of through freight traffic. Office at Montreal, P.Q.

J. Pullen having resigned to accept service with the G.T.R., J. E. Dalrymple, Division Freight Agent of the G.T.R. at Detroit, Mich., has been appointed General Freight Agent of the C.V.R. Office at St. Albans, Vt.

Chicago & Grand Trunk.—C. M. Hays, as General Manager for the receivers, has issued a circular announcing that G. W. Vaux, Assistant General Passenger and Ticket Agent of the G.T.R. at Chicago, has been given charge of the passenger traffic for the

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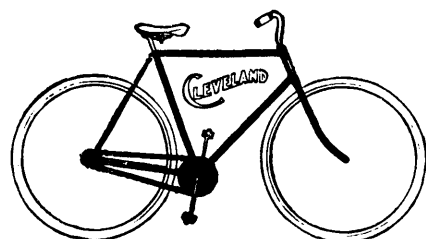
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receivers, succeeding G. T. Bell, promoted in the G. T. R. service.

Cumberland Ry. & Coal Co.—E. Laflamme, heretofore Assistant to the General Manager & General Storekeeper, has been appointed Assistant to the General Manager & Acting Superintendent of Railway; R. Aikman, heretofore Station Agent at Parrsboro', has been appointed Railway Accountant; E. A. Wallace has been appointed General Storekeeper.

Grand Trunk.—G. B. Reeve having resigned, to retire from active business life after a period of 40 years' service with this Co., the office of General Traffic Manager has been abolished. J. W. Loud, General Freight Agent, has been appointed Freight Traffic Manager, & W. E. Davis, General Passenger & Ticket Agent, has been appointed Passenger Traffic Manager.

G. T. Bell, First Assistant General Passenger & Ticket Agent at Chicago, has been appointed General Passenger & Ticket Agent of the entire System, with headquarters at Montreal.

G. W. Vaux, Assistant General Passenger & Ticket Agent at Montreal, succeeds Mr. Bell, as Assistant General Passenger & Ticket Agent, with headquarters at Chicago.

H. G. Elliott, Chief Clerk in the General Passenger & Ticket Department, has been appointed Assistant General Passenger & Ticket Agent, with headquarters at Montreal.

J. Pullen, General Freight Agent of the Central Vermont Ry., has been appointed General Freight Agent of the G. T. Ry. System, with office at Montreal.

W. P. Fitzsimons, Chief Clerk in the General Freight Agent's office, Montreal, has been appointed Division Freight Agent, Detroit, with charge of eastbound traffic from connections at Detroit & Port Huron, & all westbound traffic from connections at the Niagara Frontier destined to points west of the Detroit & St. Clair Rivers, vice J. E. Dalrymple, who has accepted service with the Central Vermont Ry. Co.

C. Clarke, Division Freight Agent, Detroit, in addition to his present duties, will have charge of eastbound traffic originating locally at Detroit & Port Huron, Michigan.

The Freight Traffic Manager of the G. T. R. & the General Traffic Manager of the West Shore R.R. have issued a joint circular stating that W. P. Fitzsimons has been appointed Manager of the G. T. Despatch, vice J. E. Dalrymple, who has resigned to accept service with the Central Vermont Ry. Co.

Halifax & Yarmouth.—Robt. Woodburn has been appointed Master Mechanic, with headquarters at Yarmouth, N.S.

Finlay Chisholm has been appointed Roadmaster, with jurisdiction over the employes of the maintenance of way department. Offices at Yarmouth, N.S.

Lake Erie & Detroit River Ry.—W. Woollatt, General Superintendent & Traffic Manager, has been appointed General Manager.

Lehigh Valley.—A. A. Heard, having been appointed Assistant General Passenger Agent, with office at 26 Cortlandt St., New York, has been succeeded as Western Passenger Agent at Buffalo by G. R. Chesbrough. Mr. Heard held the position at Buffalo since Jan. 1, 1897. Previous to that date he was, since 1895, General Passenger Agent of the Northern Steamship Co., & General Eastern Passenger Agent of the Great Northern Railway, with headquarters at Buffalo. He has been in railroad service since 1882, chiefly in the passenger department, & has had extensive experience both in office work & as an outside man.

White Pass & Yukon.—H. Middaugh, formerly Superintendent of Bridges & Buildings, but for some time past not connected with the road, has been appointed Superin-

tendent of Construction, in charge of the work of extending the line beyond Lake Bennett.

S. P. Brown has been appointed City Freight & Passenger Agent, with office at Seattle, Wash., vice F. P. Meyer, resigned. M. P. Brasch has been appointed Commercial Agent at San Francisco, Cal., vice S. P. Brown, promoted. J. S. Wilson has been appointed General Agent at Skagway, Alaska, vice C. W. Joynt, resigned.

Mainly About People.

Jas. Ross returned to Montreal from England early in April.

J. W. Tierney, C.P.R. Agent at Arnprior, Ont., died May 4, of smallpox.

J. H. R. White has been appointed Manager of the Quebec & Levis Ferry Co.

R. G. Reid, of the Newfoundland Ry., has been staying at Bournemouth, England.

Jno. Conway, Superintendent of the Lachine Canal, died at Montreal May 2, of epilepsy.

J. D. Mason, formerly a shipbuilder in Charlottetown, P.E.I., died there recently aged 73.

C. Percy, Treasurer of the G.T.R. eastern lines, & Mrs. Percy sailed from Montreal for Paris early in April.

C. R. Hosmer, of the C.P.R. directorate, sailed from New York on May 5, on the S. S. Lucania, en route to Paris.

Sir Wm. Van Horne is having two sardine weirs built on his weir privileges at Minister's Island, St. Andrew's, N.B.

W. H. Hayes, Manager of the Bell Telephone Co. at Windsor, Ont., was married at Pullman, Ill., Apl. 25, to Miss Stella Harris.

J. Radcliffe, of the C.P.R. advertising department, has gone to England, after 25 years absence, to recuperate after a serious illness.

W. R. Baker, General Manager of the Manitoba & Northwestern Ry., & Mrs. Baker have returned to Winnipeg from a trip to England.

The engagement is announced of S. Malloch, one of the largest shareholders in the Hamilton Street Ry., to Miss Eva Irving, of Riverside, Cal.

Mrs. I. G. Ogden, wife of the Comptroller of the C.P.R., is making an extended continental trip in Europe, accompanied by Mrs. Shaw, of Montreal.

W. Stitt, Assistant General Passenger Agent of the C.P.R. at Winnipeg, has been greatly improved in health by his sojourn at Hot Springs, Arkansas.

Lieut.-Col. Girouard, formerly of the C.P.R. engineering staff, now Director of Railways under Lord Roberts in South Africa, is forming a railroad corps.

D. Mulqueen, Cashier of the Toronto Ry., has been appointed Manager of the street ry. & other enterprises in which W. Mackenzie is interested in Sao Paulo, Brazil.

David A. M. Backus, son of F. F. Backus, General Freight & Passenger Agent of the Toronto, Hamilton & Buffalo Ry., died at Hamilton May 3, aged 8 years.

A. S. Halldie, inventor & builder of the first cable car in the U. S., which was laid down in San Francisco, died there recently, aged 73. He was a native of Scotland.

Dr. Seward Webb, President of the Adirondack R.R. Co., recently cabled T. Tait, Manager of the C.P.R. eastern lines, subscribing \$500 to the Ottawa fire relief fund.

Miss Allie M. Ham, B.A., daughter of G. H. Ham, of the C.P.R. advertising department, was married recently at Westmount, Montreal, to W. S. Burley, of Neepawa, Man.

J. M. Egan, at one time General Superintendent of the C.P.R. at Winnipeg, & latterly

Vice-President of the Central R.R. of Georgia, has been promoted to the Presidency of that road.

P. McCullough, Chief Electrician of the Toronto Ry., has gone to Liverpool, Eng., to take the position of electrician on the street railway there which is operated by the Town Council.

J. A. Gunn, of the Egyptian railway service, son of A. Gunn, of Kingston, Ont., was married at Alexandria, Egypt, April 11, to the eldest daughter of R. Carr-Harris, C.E., of Kingston.

D. D. Mann, of Mackenzie, Mann & Co., & Mrs. Mann arrived in Canada from England Apl. 22, W. Mackenzie remaining in England for the present. Mrs. Mackenzie has returned to Toronto.

General Manager Hays, of the G. T. R., sailed from New York May 8 for England, accompanied by E. W. Meddaugh & H. B. Joy, the Receivers of the Chicago & G. T. R. He is expected back in Montreal in June.

Mrs. T. G. Shaughnessy is going to desert her usual summer residence at St. Patrick's, on the St. Lawrence, for St. Andrew's, N.B. Mr. Shaughnessy has taken the Inness cottage, close to the Algonquin hotel, for the season.

Vice-President Ronald, of the Dominion Atlantic Ry., recently came out from England & has been making an inspection trip over the Co.'s railway & steamship lines. His father was a large shipbuilder in Miramichi, N. B., half a century ago, in the palmy days of wooden shipbuilding.

At the dinner of the Canada Club in London, Eng., Apl. 4, the following were among those present: Lord Strathcona, in the chair; C. C. Chipman, Commissioner of the Hudson's Bay Co.; T. Skinner, a director of the C.P.R.; J. Price, Vice-President of the G.T.R.; W. Mackenzie, D. D. Mann and Hugh Sutherland, of Mackenzie, Mann & Co.

W. T. Jennings, C.E., has been appointed by the Toronto City Council to report on the requirements of Toronto Harbor, acting in connection with a Dominion Government engineer. Mr. Jennings has also been appointed by the Ontario Government to report on the means to be adopted to prevent the repetition of damage by floods at Brantford.

Capt. P. A. Scott, R.N., for 25 years nautical adviser of the Dominion Government, died early in April. He was 84 years of age, & was a member of the Ross Antarctic expedition of 1841, which spent four years in magnetic research & geographical discovery. In his early days he served as a lieutenant in the British navy, & commanded a surveying vessel on the North American coast.

H. E. Beasley, who was recently transferred to the President's office of the C.P.R., from Nelson, B.C., was born Nov. 10, 1862, & entered railroad service in 1881 in the Engineer's Department of the G.T.R. He served in various departments, mostly as secretary & chief clerk, until 1890, when he became Assistant Superintendent of the Pacific Division of the C.P.R., & in 1897 he was made Superintendent of the Kootenay section of that division.

F. D. Laurie, formerly Superintendent of the eastern division of the I.C.R. (New Glasgow to Sydney), dropped dead at the citadel at Halifax, April 2, from heart trouble. He was a brother of General Laurie, M.P., now of England, who formerly represented Shelburne in the Dominion House. He married a daughter of the late Governor Archibald, of Nova Scotia, who survives him. He made his home in New Glasgow, of which town he was mayor two years ago. Latterly he had been acting inspector of the North American Life Association.

Jno. Coote, who died at London, Ont., recently, was one of the pioneers of that place. He was born in Ireland over 80 years ago, & came to Canada while a youth. In the troubles of 1837 he served as a cavalryman & despatch rider. Before the building of the Great Western Ry. he operated a stage line, running from Hamilton through Brantford & Woodstock to London, owning large establishments in each of these places for the carrying on of his freight & passenger business. On the opening of the railway he settled in London, & conducted an extensive livery business.

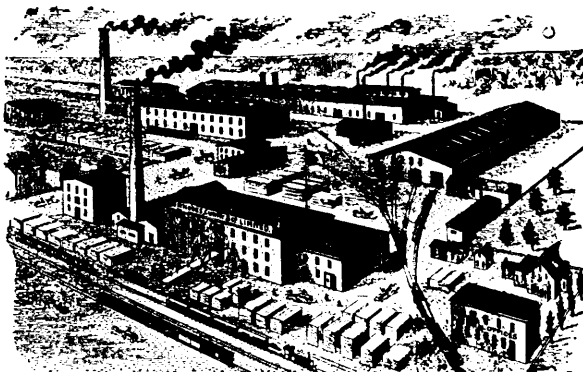
W. B. Lanigan, who has been appointed Asst. General Freight Agent of the C.P.R. at Toronto, was born at Three Rivers, Que., in 1861, & was educated at St. Joseph's College, Three Rivers, & Stanstead College, Stanstead, Que. He entered the service of the Quebec, Montreal, Ottawa, & Occidental Ry. at Three Rivers as operator in 1879. In 1881 he went to the G.T.R. as operator, & in 1885 to the C.P.R. as operator & relieving agent, since which he has continued in the C.P.R.'s service. He became agent at Myrtle in 1886, at Dundalk in 1887, & at Galt in 1888, & was appointed Travelling Freight Agent in 1891, continuing in that position until appointed Assistant General Freight Agent, May 1, 1900.

"Lumsden of the Guides," a book which was published in England about a year ago, has been reissued specially for circulation in the colonies. It is a biography of Sir Harry Burnett Lumsden, of the Imperial Service, who spent most of his life in India, by his brother, General Sir Peter Lumsden. A reviewer says:—"The Lumsden family in one

generation gave not only three sons to India—Harry, known to his friends as 'Joe,' for no reason except one of affection; Peter, the author of the present biography, & William, who was killed before Delhi in the mutiny—but sent also to Canada an eminent engineer, & another brother who was for many years Mayor of Galt." The engineer referred to is

H. D. Lumsden, of the C.P.R. engineering staff.

Peter W. Ressemann, General Superintendent of the Pontiac Pacific Jct. & of the Ottawa & Gatineau railway companies, whose portrait is given on page 127, was born Oct. 16, 1857, at Hankins, Sullivan Co., N.Y., & entered railway service in 1872, since which he has



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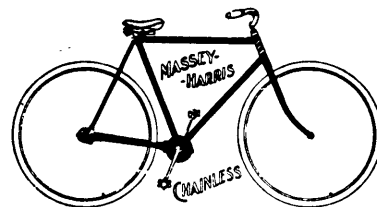
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Agents everywhere

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RAILWAY STATISTICS FOR YEAR ENDED JUNE 30, 1899.

In this table the minus mark (-) before figures in the net earnings column shows that there was a deficit in the operations of the line to the extent of the figures given. Where (E) appears after the name of a railway it signifies that it is an electric line. The earnings of the Fredericton & St. Mary's Bridge Co. consist of tolls on trains run by Canada Eastern Ry. The St. Clair Tunnel receipts consist of tolls on passenger & freight cars, on new locomotives, & rentals. The figures for the Intercolonial Ry. are exclusive of the Windsor Branch, 32 miles, which is leased to the Dominion Atlantic Ry., but include the Drummond County Ry., 133.79 miles, also on the following sections of the G.T.R.: Point Levis to Hadlow, 1.47 miles; Chaudiere Curve to Chaudiere, 1.19 miles; St. Rosalie Jct. to Montreal, 37.62 miles; total 40.28 miles. The operating expenses include \$210,000 rental of leased lines.

Name of railway.	Mileage.	Gross earnings.	Net earnings.	Proportion of earnings to working expenses.	Earnings per train mile.	Operating per train mile.
		\$ cts.	\$ cts.	p.c.	Cents.	Cents.
Alberta Railway & Coal Co....	64.62	147,669 19	62,073 40	172	311.22	180.39
Albert Southern	19.00	2,149 50	311 54	111	42.99	36.75
Atlantic & Lake Superior—						
Baie des Chaleurs.... 98.00						
G. Eastern, 23 miles not under traffic.....						
Ottawa Valley, 7 miles not under traffic.....	98.00	36,156 65	6,070 82	120	56.54	47.03
Bay of Quinte Ry. & Nav. Co.	64.82	142,076 83	50,862 09	156	111.31	71.46
Berlin & Waterloo (E).....	3.00	12,082 66	1,343 66	112	16.60	14.75
Brockville, Westport & Sault Ste. Marie.....	45.00	31,797 13	1,657 72	105	96.80	91.76
Buctouche & Moncton.....	32.00	14,129 76	-983 46	93	71.73	76.72
Calgary & Edmonton.....	295.07	257,120 92	86,127 87	150	183.15	121.09
Canada Atlantic.....	172.00	850,052 02	241,811 10	139	130.48	93.36
Canada Coals & Ry. Co.....	12.00	25,115 71	15,186 90	252	167.17	66.08
Canada Eastern.....	136.00	127,112 30	36,161 58	139	67.34	48.45
Canada Southern.....	382.19	4,107,925 88	1,030,834 83	133	118.75	88.95
Canadian Northern, comprising Lake Manitoba Ry. & Canal Co.'s line, & Winnipeg Gt. Northern Ry.....	124.74	143,169 98	75,078 98	210	235.62	112.06
Canadian Government Rys.—						
Intercolonial.....	1,300.96	3,738,331 44	62,645 23	101	76.58	75.29
Prince Edward Island.....	210.00	165,012 03	-53,040 98	75	63.89	84.42
Canadian Pacific.....	6,680.72	26,745,970 61	11,291,797 16	173	158.50	91.58
Caracquet.....	68.00	16,909 41	-4,762 22	78	42.01	53.84
Carillon & Grenville.....	13.00	2,030 07	-1,341 05	60	32.74	54.37
Central Ontario.....	113.60	111,526 19	25,388 27	129	109.44	84.53
Central of New Brunswick.....	45.66	8,573 43	-11,167 91	43	26.63	61.36
Coast Ry. of Nova Scotia.....	30.80	17,725 83	-111 31	99	57.60	57.97
Cumberland Ry. & Coal Co.....	32.00	110,322 99	58,242 21	211	158.83	74.98
Dominion Atlantic.....	220.50	671,863 95	164,375 45	132	121.36	91.67
Elgin & Havelock.....	28.00	7,848 69	-1,292 53	85	45.13	52.57
Esquimalt & Nanaimo.....	78.00	156,520 19	5,440 88	103	76.69	74.02
Fredericton & St. Mary's Ry. Bridge Co.....	1.33	4,251 79	1,093 76	134	.....	.....
Grand Trunk.....	3,146.98	18,471,159 18	6,867,824 00	159	108.60	68.22
Great Northern.....	28.00	5,068 34	-2,693 76	65	26.49	40.57
Great Northwest Central.....	50.93	53,751 59	7,651 20	116	262.83	225.41
Gulf Shore.....	16.78	1,310 11	118 29	109	42.81	38.94
Hamilton Grimsby & Beamsville (E).....	23.00	43,836 96	21,717 96	198	18.90	9.53
Hamilton & Dundas (E).....	7.25	23,366 34	10,535 03	182	39.66	21.78
Hamilton Radial (E).....	12.00	29,292 77	14,039 38	192	21.62	11.26
Hampton & St. Martins.....	30.00	6,422 92	-407 59	94	45.87	48.79
Hull (E).....	13.63	63,692 49	29,287 28	185	16.65	8.99
Hereford.....	53.30	42,397 13	-20,335 84	67	49.88	73.81
Irondale, Bancroft & Ottawa.....	50.00	16,834 46	1,208 42	107	56.61	52.55
Kaslo & Slocan.....	31.80	69,076 94	23,799 32	152	238.53	156.34
Kent Northern.....	34.00	10,157 37	2,287 37	129	55.30	42.85
Kingston & Pembroke.....	112.85	137,996 38	34,530 82	133	101.09	75.80
L'Assomption.....	3.00	889 92	-638 38	58	148.48	25.49
Lake Erie & Detroit River.....	179.72	371,409 38	130,122 42	153	101.02	65.62
Lotbinière & Mégantic.....	30.34	12,652 28	1,335 46	111	100.71	90.08
Manitoba & Northwestern.....	249.97	321,753 36	78,798 58	132	206.92	156.25
Massawippi Valley.....	35.46	127,305 53	36,080 59	139	79.22	56.76
Montfort & Gatineau Colonization.....	33.00	10,594 73	-3,230 48	76	22.31	29.11
Montreal & Atlantic.....	163.40	280,168 70	-31,705 01	80	83.98	93.48
Montreal Island Belt Line (E).....	12.67	38,474 21	18,857 93	196	16.39	8.35
Montreal Park & Island (E).....	40.88	112,654 14	44,522 80	165	16.11	9.74
Montreal & Province Line.....	40.60	53,083 49	15,575 96	141	100.57	71.06
Montreal & Vermont Jct.	23.60	123,797 36	30,857 28	133	83.58	62.75
Nelson & Fort Sheppard.....	59.40	120,629 78	58,364 75	193	205.76	106.20
New Brunswick & P.E.I.....	36.00	18,017 29	3,572 41	124	52.10	41.77

been constantly employed therein. Up to 1881 he was clerk & yardmaster of the Erie R.R., 1881 to 1883 conductor of Northern Pacific R.R., 1884 to 1887 General Yardmaster & passenger conductor West Shore R.R., 1887 to 1891 Despatcher & Joint Agent Fitchburg R.R. & West Shore R.R., 1891 to 1893 passenger conductor West Shore R.R., 1893 to 1895 General Yardmaster & Asst. Superintendent Buffalo Creek R.R., Feb. 14, 1895 to date General Superintendent & Freight & Passenger Agent Ottawa & Gatineau Railway & Pontiac Pacific Junction Railway.

Robert Cowans, died April 18, near Washington, D.C., while on his way home to Montreal from California, where he had gone for his health. He was born in Coupar, near Edinburgh, Scotland, & came out to Canada when quite a young man. He went into the dry goods business in Elora, Ont., & after some years' residence in Ontario went to Montreal 35 years ago, & had since resided there, taking a prominent part in its industrial & commercial development. In partnership with his brother-in-law, J. McDougall, he carried on the business of manufacturing car wheels & other steel work, the firm also carrying on a blast furnace at Drummondville. He was President of the Cumberland Coal & Ry. Co., Vice-President of the Canada Jute Co., & President of the Canada Fibre Co., as well as being connected with a number of other leading concerns. He was about 70 years old.

Jno. Duckworth, Bridge Inspector of the G.T.R., died in Montreal April 17, aged 77. He was ill only a short time, & was active up to the last, having sent in his weekly report on April 14. He was born at Leeds, Yorkshire, & served his apprenticeship in London. He came to Canada about 45 years ago, & three years later entered the service of the old Great Western Ry. Co., which was subsequently merged into the G.T.R. He was engaged in the construction of the old Victoria tubular bridge, & superintended the placing of the first plate on the first tube of the bridge. He also assisted in the driving of the golden rivet by the Prince of Wales at the opening ceremony. As Bridge Inspector his duties took him from Portland to Sarnia & on the branch lines. He was for a number of years a member of the St. Lambert Council & Board of Education. Besides Mrs. Duckworth, who survives, he leaves two sons & two daughters.

A G.T.R. Fire Case.—The suit of Jackson vs. The G.T.R. Co., which was heard in Toronto recently, was brought to recover \$7,000 for the destruction by fire of the barn, implements, etc., of the plaintiff, near Thornhill, Ont., in April, 1899. The buildings were situated about 100 ft. from the G.T.R. tracks. At the trial the only evidence of negligence was that given by Peter Clarke, at one time Assistant Mechanical Superintendent of the northern division of the G.T.R., who said that the engines & equipment were sufficient, with the exception of the extension box of one engine, which was, in his judgement, too short. As against this, the G.T.R. called as witnesses its Superintendent of Motive Power, F. W. Morse; G. R. Joughins, Mechanical Superintendent of the I.C.R.; Mr. Harkom, Assistant to the Manager Mechanical Department, C.P.R. eastern lines; Mr. Willie, of the Baldwin Locomotive Works, & Mr. Gentry, of the Richmond Engine & Machine Works, all of whom stated that the equipment, including extension smoke boxes, was modern & sufficient, & in their judgment could not be improved upon. Notwithstanding that the evidence was overwhelmingly in favor of the G.T.R., the jury found against the Co., & judgment was entered for plaintiff, against which the Co. is appealing.

RAILWAY STATISTICS FOR YEAR ENDED JUNE 30, 1899—Continued.

Name of railway.	Mileage.	Gross earnings.	Net earnings.	Proportion of earnings to working expenses.	Earnings per train mile.	Operating per train mile.
Niagara Falls Park & River(E).	13.68	\$ 59,360 33	\$ 20,702 86	p.c. 153	Cents. 22.66	Cents. 14.76
Northern Pacific & Manitoba...	311.61	378,724 23	19,853 36	95	140.92	148.31
Nosbonsing & Nipissing	5.50	47,365 00	2,744 60	106	387.60	
Nova Scotia Central	74.00	49,688 82	8,257 67	119	100.12	
Nova Scotia Steel Co.	12.50	19,820 88	3,649 68	122	127.05	
Orford Mountain	26.50	19,227 87	1,832 58	110	57.87	
Oshawa (E)	8.50	29,699 92	13,594 61	184	58.22	
Ottawa & Gatineau	56.50	62,048 64	8,145 49	111	105.63	
Ottawa, Arnprior & Parry Sound	263.80	782,051 14	157,313 46	125	85.56	
Ottawa & New York	56.79	46,328 76	13,159 91	78	67.28	
Pembroke Southern	20.50	3,320 88	4,968 77	40	41.19	
Philipsburg Ry. & Quarry Co..	7.50	2,918 22	1,415 16	193	303.98	
Pontiac Pacific Junction	70.60	47,738 97	3,714 15	108	91.24	
Port Arthur, Duluth & Western.	85.50	17,378 46	4,639 70	79	107.44	
Qu'Appelle, Long Lake & Sas-						
katchewan	253.96	88,740 81	1,934 24	97	139.51	
Quebec & Lake St. John	298.00	295,307 00	49,030 75	119	107.05	
Quebec Central	213.50	468,851 51	161,452 43	152	102.12	
Quebec, Montmorency & Char-						
levoix	30.00	58,882 32	24,561 02	171	104.55	
Red Mountain	9.53	87,190 31	54,913 35	270	521.47	
Salisbury & Harvey	45.00	21,899 81	3,612 48	119	77.99	
Shore Line, New Brunswick ...	82.50	28,266 19	3,818 78	88	50.36	
Stanstead, Shefford & Chambly.	43.00	57,828 79	9,938 14	120	80.63	
St. Clair Tunnel	2.23	269,359 00	169,292 98	269		
St. Catharines & Niagara Cen-						
tral	12.35	26,209 36	1,372 57	105	103.87	
St. Lawrence & Adirondack ...	33.00	144,953 21	78,412 27	217	102.83	
Sydney & Louisburg	59.09	381,847 13	204,938 25	215	224.52	
South Shore	44.67	43,013 18	12,429 88	140	71.95	
Témiscouata	113.00	61,966 53	1,139 31	101	61.36	
Tilsonburg, Lake Erie & Pacific	20.00	9,524 73	732 01	108	47.62	
Thousand Islands	4.33	20,403 67	8,002 84	164	108.12	
Toronto, Hamilton & Buffalo ...	82.94	332,566 99	85,933 21	134	120.89	
United Counties... ..	83.80	44,051 89	18,417 91	70	42.11	
Victoria & Sydney	16.26	18,011 84	1,348 22	108	74.54	
	17,250.21	62,243,784 69	21,537,567 48			

RAILWAY FINANCE, MEETINGS, &c.

Calgary & Edmonton.—Net earnings for Mar. \$16,603.20, against \$10,193.68 in Mar. 1899.

Canada Southern.—The annual meeting will be held at St. Thomas, Ont., June 6. The annual meetings of the following subsidiary companies will also be held there on the same day:—Leamington & St. Clair Ry.; Niagara Grand Island Bridge Co.; Sarnia, Chatham & Erie Ry.; Niagara River Bridge Co.

Canadian Northern.—Notice is given that an agreement between the Manitoba & South-eastern Ry. Co. & the C.N.R. Co., dated April 28, for an amalgamation of these two companies under the name of the Canadian Northern Ry. Co. has been approved by the Governor-in-Council. Notice is also given that an agreement between the Ontario & Rainy River Ry. Co., & the C.N.R. Co. (the latter Co. being formed by an amalgamation between the Manitoba & Southeastern Ry. & the C.N.R.) for an amalgamation of these 2 companies, under the name of the Canadian Northern Ry. Co., was entered into on May 3, & that it has received the sanction of the Governor-in-Council.

C.P.R.—The London Stock Exchange Committee has ordered the further issue of £1,200,000 C.P.R. 4% non-cumulative preference stock, & £1,213,880 4% perpetual consolidated debenture stock to be quoted in the official list.

Central Ontario.—The annual meeting will be held at Trenton May 16.

Chicago & G.T.—It is stated that a syndicate has been formed by MM. Wertheim & Gompertz, of Amsterdam, to provide \$5,437,000 in cash to take up the 1st mortgage bonds of this Co., which fell due Jan. 1 last, & were not paid at maturity. The syndicate, which is composed of some of the large financial houses in Amsterdam & London, has been formed for the protection of the 2nd mortgage bondholders, & it undertakes to furnish the funds needed under an extension of the existing 1st mortgage. The 2nd mortgage bondholders will claim by this offer to terminate the proceedings commenced by the G.T.R. Co. of Canada for the foreclosure of the 1st

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Average yield per acre.		Average yield per acre.	
WHEAT.....27.86 bushels		WHEAT.....14.33 bushels	
OATS.....46.73 "		OATS.....28.25 "	
BARLEY.....36.69 "		BARLEY.....24.80 "	
FLAX.....16.08 "		FLAX.....12.30 "	

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mortgage, & their committee have instructed counsel in America to intervene to this effect. They propose also to hold the G. T. Co. liable for its obligations under the traffic guarantee of the 2nd mortgage bonds.

Chignecto Marine Ry.—A. D. Provand, a member of the British House of Commons, arrived in Ottawa in the middle of April to submit another proposition to the Government from the directors of this line in reference to the completion of the enterprise & the earning by the Co. of the Government subsidy. Some time ago the Government declined to give a guarantee that the subsidy originally voted would be paid in the event of the railway being completed. (Oct. 99, pg. 287.)

Columbia & Kootenay.—At the annual meeting in Vancouver May 2, the following were elected: President, H. Abbott; Vice-President, G. McL. Brown; other director, W. F. Salsbury. The Co.'s line is leased to the C.P.R. Co. for 999 years from 1890.

Dominion Atlantic.—Net earnings 3 months to Mar. 31, \$138,000, against \$117,754 for corresponding period.

Erie & Huron.—A special general meeting of shareholders will be held at Walkerville May 18, to change the location of the head office of the Company to Walkerville, & to deal with the proposed agreement for amalgamating with the Lake Erie & Detroit River Ry. Co.

Great Northwest Central.—The annual meeting will be held in the Union Station, Toronto, June 5.

J. S. Cartwright, official referee in the suit of Delap vs. Charlebois, has awarded A. Charlebois, of Quebec, \$310,000 for building 50 miles of this line.

Hamilton & Barton Incline Ry.—G. T. Tuckett & B. Whitton, jr., have been elected to fill vacancies on the board. J. Dickenson, M.P.P., has been elected President, succeeding the late G. E. Tuckett, & G. T. Tuckett has been elected Vice-President.

Heinze vs. Angus et al.—Some preliminary proceedings are going on in Montreal in the case of Heinze vs. Angus et al., & the B.C. Smelting & Refining Co., mis-en-cause. The facts which gave rise to the action are as follows:—On Feb. 11, 1898, R. B. Angus & T. G. Shaughnessy signed an agreement with F. A. Heinze, of Butte, Montana, by which all the stock of the Columbia & Western Ry. of B.C. were transferred by Heinze & his associates to Angus & Shaughnessy. By the same agreement certain of the assets of the B.C. Smelting & Refining Co., of Trail, of which Heinze was the chief stockholder, were also transferred to Angus & Shaughnessy, but the shares & charter of the Co. were retained by Heinze. By the terms of the agreement it was stipulated that the fuel & stores of the B. C. Smelting & Refining Co. were to be sold separately to Angus & Shaughnessy. A disagreement subsequently took place between the parties, the purchasers denying that Heinze had any ownership of the wood & that the stores mentioned in the agreement were not stores, in smelter parlance. In consequence, Heinze, in Dec., 1898, issued a writ against Angus & Shaughnessy for about \$84,000. The case is expected to come on for trial this month. On Apr. 28 the examination of Mr. Shaughnessy for discovery was commenced by Mr. Heinze's counsel before the prothonotary.

Lake Erie & Detroit River.—At the annual meeting, May 1, the following were elected: President, F. H. Walker; Vice-President, Dr. S. A. King; Treasurer, J. H. Walker; Secretary, H. Lye; other directors, W. Robbins, W. Aikman, S. A. Griggs; General Manager, W. Woollatt.

New York & Ottawa.—The appointment of H. W. Gays as Receiver was mentioned in our last issue. The following further partic-

ulars are given in a New York despatch of Apl. 27: "Judge Lacombe, of the U.S. Circuit Court, to-day appointed H. W. Gays Receiver of the N.Y. & O.R. Co. Gays filed a bond for \$50,000 with Commissioner Shields. The Receiver was appointed on the application of A. T. Enos, of Englewood, N.J., who recently recovered a judgment for damages of \$2,354. The complaint says the payment of this has been demanded & refused. The complaint states that the N.Y. & O.R. Co. operates a steam railway extending from Tupper Lake, in Franklin County, to Moira, in the same county, & to the shore of the St. Lawrence River, & in Canada extends from Ottawa to Cornwall; that a mortgage on the property is held by the State Trust Co. of New York to secure an outstanding issue of \$1,728,000 worth of 4% 20-year bonds, & that a 2nd mortgage is held by the State Trust Co. to secure \$632,000 bonds. It is declared that no interest has been paid on the 2nd mortgage & that the Co. has failed to pay the interest on the 1st mortgage since May 1, 1899. It is also set forth that owing to the failure of the Railway company & the Cornwall Bridge Co. to finish the construction of a bridge across the St. Lawrence River on Nov. 15, 1899, their operating expenses have exceeded the revenue & that the floating & unsecured debt has accumulated, & that this debt the Co. is unable to pay.

Northern Pacific.—At a recent meeting of directors the regular dividend of 1% on the preferred shares was declared. No action was taken on a common-stock dividend. R. Bacon, of J. P. Morgan & Co., was elected a director, to succeed the late C. H. Coster.

Ontario & Quebec.—The ½-yearly interest due on June 1 on the 5% debenture stock of the O. & Q.R. Co. will be paid on that date by the C.P.R. Co., & the interest for the same period on the common stock will be paid on the same date, at the rate of 6% per annum, by the Bank of Montreal, Montreal, or at the London office of the C.P.R. Co.

Qu'Appelle, Long Lake & Saskatchewan.—The net loss in operating for Mar. was \$502,611, against net earnings of \$2,806,791 in Mar., 1899.

Quebec & Lake St. John.—The London Stock Exchange Committee has ordered Q. & L. St. J. R. Co.'s London bondholders' committee's certificates of deposit for £352,700 5% 1st mortgage bonds to be quoted in the official list.

Quebec Central.—Earnings for Mar., \$36,338.63, against \$30,453.83 in Mar., 1899; working expenses, \$28,502.23, against \$25,344.16; net earnings, \$7,836.40, against \$5,109.67.

Earnings Jan. 1 to Mar. 31, \$96,851.69, against \$84,846.74 for corresponding period; working expenses, \$76,805.03, against \$69,369.81; net earnings, \$20,046.66, against \$15,476.93.

Rutland R. R.—President Clement has issued the following circular: "Beginning May 1 the Bennington & Rutland Ry. will be operated by the Rutland R.R. Co., & all agents & employes of the B. & R.R. Co. will become the agents & employes of the Rutland R.R. Co., & will report direct to the officers of that Co. having charge of the different departments."

The following press item is unverified, & it is given for what it may be worth: "Dr. W. S. Webb, Chairman of the Directors of the Rutland Ry., & P. W. Clement, President of the same road, have invested several million dollars in the formation of a new through freight line from the Atlantic seaboard to Chicago, & according to contracts already made these two capitalists & their associates will continue to expend large sums of money in the expansion of the Rutland Ry. in Vermont into a rail & lake route between Boston

& Chicago. When President Clement took the Rutland Ry. off the hands of the Delaware & Hudson people about two years ago, he secured Dr. Webb's co-operation, & plans of extension were devised. The Bennington & Rutland, a short line running from Rutland to North Bennington, was purchased. This connected the Rutland road with the Fitchburg at North Bennington. The Rutland Ry. extends as far as Burlington, & Dr. Webb & Mr. Clement conceived the idea of building a railroad across Lake Champlain on the North Hero group of islands. Rouse's Point is the northern terminus of this Canadian branch, & there connection is made with the Ogdensburg & Lake Champlain line, which was recently purchased outright by Dr. Webb & his associates. Negotiations for the purchase of a line of steamers on the Great Lakes are under way, & orders have been placed for the construction of 3 or 4 new boats of large tonnage. These boats will have direct connection with the Ogdensburg & Lake Champlain line. All that remains, therefore, to give Dr. Webb & Mr. Clement a through route from Chicago to Boston is trackage service between North Bennington, Vt., & Boston, such as their present arrangement with the Fitchburg Ry. gives them. The leasing of the Fitchburg road by the Boston & Maine may compel Dr. Webb & his associates to build a new line from some point on the Rutland to Boston or abandon the idea of a through line. The determined opposition of the Rutland owners to the ratification of the Boston & Maine-Fitchburg lease, indicates that they have no expectation of making any satisfactory arrangement with the B. & M. management."

Shore Line.—Notice is given of application to the Dominion Parliament to incorporate a company to purchase the Shore Line Ry. in New Brunswick. To connect the railway with the Washington County Ry. in Maine by constructing bridge across the St. Croix River at St. Stephen, N.B. To extend the railway to connect with other railways in N.B., & to purchase the said railways. To purchase, amalgamate or consolidate the Shore Line Ry. Co. with the Washington County Ry. Co. To construct & maintain wharfs, warehouses, elevators, telegraph & telephone lines, & with other powers.

Toronto, Hamilton & Buffalo.—The annual meeting will be held at the Queen's Hotel, Toronto, June 5.

White Pass & Yukon.—It is said that the general offices of this Co. are to be removed from Seattle, Wash., to Skagway, Alaska.

U. S. Railway Earnings.

Railways gross earnings continue to show their course of remarkable improvement. The Chronicle's reports of 117 roads for Mar., 1900, show an increase in gross earnings of \$6,340,000, or 12½% over the earnings of Mar., 1899. The record of 116 roads for the 3 months of this year shows an increase in gross earnings of over \$23,000,000—higher by more than \$5,000,000 than for any year since the panic. Last year the increase for Mar. aggregated 6.35% over the previous, & in 1898 it amounted to 15.25%, though the total increase was slightly less than this year. This improvement extends to all sections of the country. Of the roads reported, less than 1 in 8, & those small ones as a rule, showed any decreases. Of the roads whose changes in gross earnings for the month exceed \$30,000, only one, the New York, Ontario & Western, reports a falling off. The Great Northern leads all others in increases for Mar. with \$596,000. Among the other leading ones are the Baltimore & Ohio, \$515,000; the Illinois Central, \$406,000; the Southern, \$360,000; the Northern Pacific, \$312,000; the Chicago, Milwaukee & St.

Paul, \$294,000, & the Louisville & Nashville, \$289,000. Perhaps the most remarkable gain has been that of the 13 roads, classified as the Northwestern & North Pacific group. Their gross earnings for Mar. were nearly \$13,500,000. Six years ago the earnings of these same roads for that month were \$7,500,000. The Southern group of 11 roads gains from \$6,500,000 in 1895 to nearly \$10,000,000 in Mar., 1900. The roads in the coal & manufacturing districts are being most favored by the existing trade prosperity. The Hocking Valley, for example, whose traffic consists largely of bituminous coal, though a small road, reports an increase of \$131,000. The increased cotton movement has had its effect upon the Southern roads. The receipts at the southern outports for Mar. were 450,000 bales, against 377,000 last year. At the same time the receipts of cotton at Galveston fell off 6,000 bales. There has also been an increase in the shipments of wheat, which has affected the Western roads. The receipts in the primary markets in the West for the 5 weeks ended Mar. 31, 1900, were 19,500,000 bush., against only 16,750,000 bush. the corresponding weeks of last year. Yet at Chicago, Kansas City & several other points, the wheat receipts this year were smaller than a year ago. During the same weeks also the receipts of corn have made a gain over the receipts of the preceding year of some 8,000,000 bush.; oats, 2,000,000; & barley, 2,500,000 bush.—Railroad Gazette.

RAILWAY TO THE YUKON.

Under provisions made by Parliament in the sessions of 1898 & 1899, surveys have been conducted with a view to ascertaining the feasibility & approximate cost of a line of railway to be constructed entirely on Canadian territory, in order to give communication with the Yukon district from a point on an existing Canadian railway, & also from a Canadian port on the Pacific coast. Three surveying parties have been engaged in the work, under the charge respectively, of V. H. Dupont, C. F. K. Dibble & J. S. O'Dwyer. The results of their work are summarized by the Chief Engineer as follows:

The most northerly point on an existing railway system is Edmonton, the present terminus of the Calgary & Edmonton Ry. (leased to the C.P.R. Co.), 192 miles north of Calgary on the C.P.R. main line. This place was accordingly adopted as the objective point from which the projected line should start, & here two of the expeditions were organized. The point of commencement of actual survey, however, must be regarded as in the neighborhood of the eastern boundary of British Columbia, about 500 miles from Edmonton by the existing trail via the Lesser Slave Lake, to the Peace River & thence following the course of that river. The intervening country is known, & is understood to present no serious obstacles to railway construction.

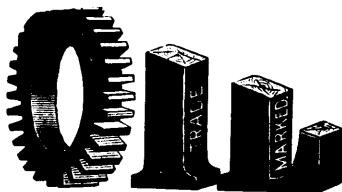
Starting from a point about 9 miles east of the B.C. boundary, a possible location has been found, which practically runs westerly along the southerly side of the Peace River for about 199 miles to the junction of the rivers Parsnip on the south & Finlay on the north, this junction of waters forming the Peace River. In this distance there occurs a stretch of about 10 miles, where the waters of the Peace lie in a canyon the walls of which are about 400 ft. high, pierced by numerous gullies or creeks which would require to be bridged. At the junction, it is necessary either to cross the Parsnip, which would be effected by a bridge at a point about 2 miles above the junction, the length of which would be 950 ft., with a height of about 32 ft. above low water (a work for which the bed of the river, composed of very compact gravel, would offer good foundation) or by a bridge, below the junction, at Finlay Rapids, where the bed of the Peace River is rock. This crossing would, however, necessitate the bridging, also, of the Finlay, which is about the same width as the Parsnip. The work to be executed comprises 135 miles of light, 46 of medium, & 20 of heavy construction. The estimated cost of this 201 miles, up to & including the crossing of the Parsnip, is at the average rate of \$19,721.47 a mile, or \$3,964,016.88, including 16 bridges, varying in length from 25 to 950 ft. This estimate is based on prices for similar work in Eastern Canada, to which must be added the cost of transport of

laborers, plant & material, & whatever difference there may be in rate of wages. Good sandstone for masonry work is abundant, but black & white spruce, which is plentiful, would be the only timber available.

From this junction of the rivers Parsnip & Finlay the line for some 25 miles crosses the wide valley lying between the Rocky Mountains & the Cariboo Range. It follows the west bank of the Finlay 16 miles to the mouth of the Omenica, thence along the south bank of the latter 9 miles to the west border of the above-mentioned valley. From this point it continues westward, following the Omenica to the mouth of the Osilinka, thence along this river to its headwaters, 90 miles from the Parsnip. These 90 miles are estimated to cost \$15,600 a mile, including steel bridges, or \$1,404,000.

From this 90th mile a line will need to be obtained via Sestoot Lake & River—(passing a few miles north of Ft. Connolly)—to the junction of the Sestoot with the main Skeena River. At this point the railway would probably turn to the north, following the valley of the Skeena, but the season was too far advanced to admit of full exploration; from information obtained, however, there does not appear to be any serious obstacle to construction. From a point about 28 miles lower down on the main River Skeena, an exploring party travelled about 53 miles northerly & up the valley of the Nass, to a point where the main waters of the Skeena were met. Here is a union of two parallel valleys formed by a high hilly range, running for a distance of about 45 miles, north-west, in both of which are the summit waters of the Skeena, flowing south, & of the Stikine, flowing north. Either would appear to offer a feasible route for a railway. By the westerly one the distance would be about 6 miles longer than by the other. The gradients also of the westerly are more severe, being 54 ft. to the mile against 22 ft. At this northerly end these two valleys join, & the waters which have traversed them become the main river Stikine. From this point of junction for a distance of about 130 miles down the Stikine, there appear to be no features of difficulty, considering the country traversed, but as the descent of the river continues, its

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waters pass through so severe & extensive a canyon district—the Great Canyon of the Stikine—that it was considered advisable to ascertain whether a less difficult route could not be found.

From information gained from various competent & reliable sources, it appeared likely that by leaving the Stikine valley and following a north-westerly course to Dease Lake, not only would a better location be discovered, but that from Dease Lake a comparatively easy route could be followed to the head of Teslin Lake, along an existing trail between the two lakes, which would, approximately, be the route adopted, & which had been traversed by prospectors the previous winter in 7 days. From Teslin, the river navigation to Dawson is, of course, that at present followed. Exploration was accordingly carried on with the view to a railway location to Dease Lake in the auriferous Cassiar district, & the results show that a practical route can be obtained from a point (Beaver Creek) above the Great Canyon of the Stikine to that lake, about 59 miles, with but a limited amount of heavy work. An estimate of the cost of the last 111 miles, comprised in 52 miles down the Stikine Valley to Beaver Creek, & the 59 miles from that creek to Dease Lake has been furnished, based on prices in Eastern Canada (to which has, therefore, to be added the cost of labor, transport, supplies & whatever difference there may be in wages) as follows:—74 miles of light work at an average cost of \$14,000 a mile; 32 at \$23,000, and 5 at \$35,000, which together with provision for bridges, \$75,000, aggregates \$2,022,000 as the estimated cost of this section.

Should the line indicated above be followed the approximate distance from the easterly boundary of B.C., to the southerly end of Dease Lake would be 646 miles, & a further distance of 136 miles would bring the railway to the head of Lake Teslin, making a total of 782 miles to the navigable waters of the Yukon district. From Edmonton to the boundary the approximate distance would be 500 miles, making the total approximate distance from an existing railway system to the head of Lake Teslin, 1,282 miles. Of this distance much remains necessarily undetermined; connecting links of surveys have to be made; alternate routes on certain portions have to be carefully considered; & possible improvements may be found by which the location, even where now regarded as clearly defined, may be modified to advantage. Still a good deal of valuable information has been obtained, & the feasibility of constructing the railway without inordinate cost has been demonstrated. It appears, however, highly probable that a very much shorter line of no difficult character can be obtained from the head waters of the Stikine to Dease Lake by following down the valley of the river Clappan (or third south fork of the Stikine) & crossing the main Stikine above the Grand Canyon.

Explorations with a view to location of a railway from a Canadian Pacific ocean port into the Yukon district were carried on, the general results of which may be summarized as follows:—The known ports calling for attention are Port Essington, near the mouth of the river Skeena on its south side, & Port Simpson near the entrance to Portland Inlet. These ports & the possible routes from them eastwards up the Skeena were made the subject of examination in connection with the early surveys for the C.P.R., & the object of the present surveys being to obtain information as to the practicability of a line leaving the river Skeena at some point where its construction northwards would be feasible, Hazelton, at the forks of the Skeena, about 150 miles from Port Essington (which is navigable for steamers of light draught at stages of mean water) was made the starting point for an exploration which extended for about

130 miles to the point of junction of the waters of the Skeena & Sestoot, above mentioned as on the suggested line from Edmonton, from which point the railway might follow the route of that location to the northward as already described.

Port Simpson, the most northerly of the harbours of B.C., is about 50 miles north of Port Essington, & from it a survey was made in 1879, southerly to the river Skeena, about 40 miles; thence up the river on its north side, in a north-easterly direction; the first 60 miles was actually located, the work on the first 32 miles being classed as very heavy. Port Simpson, which, in common with other possible ports, received in 1879 careful examination, has been pronounced both by naval & engineering experts to be an exceptionally fine, deep harbour, well protected from winds; easy of access from the sea; free from frogs & ice; never freezing over even during the winter of 1878, which was an extremely severe one; while the average winter snowfall does not exceed 18 inches, & this does not remain more than a day or two. The officer of the Hudson's Bay Co. records the budding of trees & the blooming of garden flowers on Feb. 10, 1878. These climatic advantages are, of course, due to the Japan current.

Port Essington, about 450 miles from Victoria, is situated on the south side of the Skeena about 11 miles from its mouth. It is not a good harbour, the access from the sea being bad, while it is exposed to winds & the action of masses of ice from the Skeena, which drifting up and down with the tide render it practically ice-bound for the winter months. A good harbour, however, exists beyond the mouth of the river, to which the name of Port Fleming has been given.

A third port might possibly be found on Kitimat Inlet, up the Douglas Channel. At the head of this inlet is the mouth of the river Kitimat, the valley of which, though not fully explored, was to some extent examined by the survey parties of 1876, resulting in the opinion that an easy route could be found up to the river Skeena. It would possibly join that river at a point about half way between Port Essington & Hazelton, considerably reducing the distance for traffic coming up from Victoria and Vancouver & greatly decreasing the cost of railway construction as compared with a line from Port Simpson. In 1898 & 1899 powers were given by the Province of B.C. to a railway company to build a line from the Kitimat Inlet with an objective point, east of Lake Babine, on the river Omenica.

It might also be desirable that a route should be explored up the valley of the Nass, the mouth of which is on the south side of Portland Inlet, & which may be found to afford a practicable means of communication with Telegraph Creek on the Stikine, whence an easy location, with the exception of a small portion, can be found along the present trail to Dease Lake, distant about 72 miles.

RAILWAYS & CANALS.

Annual Report of the Department.

Following is a summary of the report of the Deputy-Minister & Chief Engineer for the year ended June 30, 1899:

The number of railways in actual operation, including the 2 Government roads, the I.C.R. & the P.E.I.R., was 153; some of these, however, are amalgamated or leased; making the total number of controlling companies 84, not including the Government railways. The number of companies absorbed by amalgamation is 33, & the number of leased lines is 35.

The number of miles of completed railway was 17,358, an increase of 488, besides 2,402 miles of sidings. The number of miles laid with steel rails was 17,180, of which 562 miles

was double track. The number of miles in operation was 17,250.

The paid-up capital amounted to \$964,699,784, an increase of \$23,402,747. The gross earnings amounted to \$62,243,784, an increase of \$2,528,679, & the working expenses aggregated \$40,706,217, an increase of \$431,328 compared with those of the previous year, leaving the net earnings \$21,537,567, an increase of \$960,011. The number of passengers carried was 19,133,365, an increase of 689,316, & the freight traffic amounted to 31,211,753 tons, an increase of 2,425,750 tons. The total number of miles run by trains was 52,215,207, an increase of 1,526,924. The accident returns show 20 passengers killed.

The Government expenditure on railways prior to & since Confederation (1867) amounts, on capital account, to \$124,327,857.65 (including a payment of \$25,000,000 to the C.P.R. Co.) & for railway subsidies charged against the Consolidated Fund the further sum of \$20,633,842.16, making a total expenditure of \$144,961,699.81. In addition, there has been an expenditure since Confederation, for working expenses of \$76,726,244.05, covering the maintenance & operation of the Government roads, or a grand total of \$221,687,943.86, all of which, with the exception of \$13,881,460.65, has been expended on railways during the past 32 years. This total does not include an annual subsidy of \$186,600 to the Atlantic & Northwest Ry. Co. for 20 years from July 1, 1889, nor interest at 5% on \$2,394,000, payable to the Province of Quebec for the line from Quebec to Ottawa, which has been transferred to the Public Debt. The revenue derived from the Government roads during the same period amounts to \$68,451,220.29.

Canadian Pacific Ry.—By the payment during the fiscal year of \$233.67, the total amount, \$579,255.20, awarded to this Co. in 1891 by the special arbitrators in respect of transferred works in B.C., & to be expended by the Co., under Government supervision, in certain specified directions, has been earned & paid.

The construction of the Crow's Nest Pass Ry. being considered a necessity for the successful development of the mining interests of B.C., Parliament granted a subsidy of \$11,000 a mile in aid of it. Under the Act the C.P.R. Co. undertook the work of construction & entered into a contract, breaking ground July 15, 1897, since which the works of construction have been prosecuted continuously up to date, there remaining only work to the value of \$60,000 to complete the section between Lethbridge & Kootenay Lake. The length of road under contract is: Lethbridge to Kuskanook Station (Kootenay Lake), 290 miles; Kuskanook Station to Nelson, 54 miles; total length, 344 miles. The maximum grade is 1% or 52.1% ft. per mile, severest curves 10 & 12 degrees, except in one instance, where a 15 degree curve has been introduced. The work of construction has so far been confined to the section between Lethbridge & Kuskanook Station, 290 miles, which section of road is being successfully operated to the great benefit of the country. A train transfer landing has been constructed on Kootenay Lake at Kuskanook, so that cars with their loads are transferred without transhipment from that point to Nelson. The subsidy paid up to Dec. 1, 1899, is \$3,116,250.

The improvements made on the road & rolling stock in the last few years enabled the Co. to increase the speed of its transcontinental express trains during the past summer, which was greatly appreciated by the travelling public. The Co. now has equipped with self-couplers 8,456 freight cars, & has fitted 6,601 freight cars with automatic brakes.

Government Railways in Operation.—The several lines maintained by the Government are: The Intercolonial, the Windsor Branch (maintained only), & the Prince Edward Island Rys. The gross earnings of all the Government

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- 6.—**An Old Age Disability Benefit** of one-tenth of face value of policy payable yearly for ten years, on being declared totally and permanently disabled by infirmities of age after the seventieth birthday.
- 7.—**An Old Age Pension** payable during disability, which may be taken as a substitute for the Old Age Disability Benefit.
- 8.—**A Burial Benefit** of \$100 at death of a Pensioner.
- 9.—**A Funeral Benefit** of \$50 at death of a member enrolled in Sick and Funeral Benefit Department.
- 10.—**The Mortuary Benefit** of \$500, \$1,000, \$2,000, \$3,000, \$4,000 or \$5,000.

The Members, the Benefits, and Their Assurance
 At 31st December Each Year.

Year.	Total Membership.	Benefits Paid.	Total Surplus.	Surplus per Capita.	Death Rate per 1,000.
1881	1,019	\$ 1,300 00	\$ 4,568 55	\$ 4 48	4.50
1882	1,134	12,058 86	2,967 93	2 61	11.00
1883	2,210	9,493 68	10,857 65	4 91	4.73
1884	2,558	13,914 31	23,081 85	9 01	4.23
1885	3,642	26,576 99	29,802 42	8 18	7.76
1886	5,804	28,499 82	53,981 28	9 30	4.86
1887	7,811	59,014 67	81,384 41	10 44	5.78
1888	11,800	89,018 16	117,821 96	9 98	6.43
1889	17,349	116,787 82	188,130 36	10 84	5.85
1890	24,604	181,846 79	283,967 20	11 54	5.18
1891	32,303	261,436 21	408,798 20	12 65	6.40
1892	45,024	344,748 82	590,597 85	13 49	6.25
1893	54,484	392,185 93	858,857 89	15 76	5.47
1894	70,055	511,162 30	1,187,225 11	16 94	5.47
1895	86,521	685,000 18	1,560,733 46	18 03	5.67
1896	102,838	820,941 91	2,015,484 38	19 60	5.50
1897	124,685	992,225 60	2,558,832 78	20 52	5.56
1898	144,000	1,176,125 14	3,186,370 36	22 12	5.67

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

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

Or Any Officer or Member of the Order.

roads for the fiscal year, 1898-9, amounted to \$3,945,817.40, & compared with those of the preceding year show an increase of \$631,970.30. The gross working expenses amounted to \$3,906,612.31, an increase of \$329,363.43. The net profit on the operations of the year was \$39,205.19. The above figures include \$210,000, rental of leased lines for the extension of the I.C.R. into Montreal.

Intercolonial Ry.—On Mar. 1, 1898, the operations of the I.C.R. were extended to Montreal by means of leases obtained from the Grand Trunk & Drummond County railway companies, making an addition of 169.81 miles to the operation of the government line, its length being 1,314.67 miles, instead of 1,145. Consequently, in the fiscal year 1897-8 a new element was introduced into the I.C.R. accounts by the payment of rental during 4 months for these leased lines, & in order not to complicate the comparison of averages of that with those of the preceding year, the rental was treated as a separate matter, not entering into the ordinary statements of expenditure on the road. This led to some apparent discrepancies, as was explained in my last report. This year (1898-9) the accountant of the railway has dealt with the rental as an addition to the ordinary working expenses, & in his comparative statement of averages, gives such averages, for each year, both with the rental included, & also with rental omitted. The figures of my present report as Deputy are based on his statements with the rentals included, & the differences which have resulted from the use by the General Manager & by the Chief Engineer of the Department of figures from which it was omitted will, next year, cease to exist. Meantime, this explanation will cover any seeming discrepancy of statement in the matter.

During the fiscal year there was an addition of \$1,081,929.94 to capital account expenditure, making the total expenditure chargeable to capital, on the whole road as amalgamated under the Act of 1891, up to June 30, 1899, \$56,750,843.89. The additions made during the year included \$63,945.04 for increased accommodation at Halifax, \$195,534.59 for increased accommodation at St. John, \$20,000 for increased accommodation at Moncton, \$21,258.68 for the extension to deep water at North Sydney, \$17,358.96 to build an elevator at St. John, \$41,203.83 to build an elevator at Halifax, \$49,990.39 to strengthen bridges, & \$619,999.26 for rolling stock.

The gross earnings of the year amounted to \$3,738,331.44, an increase of \$620,661.59, & the working expenses to \$3,675,686.21 (including \$210,000 rent paid for the extension into Montreal), being an increase in comparison with the previous year (when \$70,000 was paid for such rental), of \$348,037.70; the excess of earnings over expenditure being \$62,645.23, against an excess of expenditure over earnings in the previous year of \$209,978.66, or a betterment of \$272,623.89. Comparing the earnings with those of the previous year, the passenger traffic produced \$1,167,453.16, or 31.23% of the gross earnings, an increase of \$113,588.52; the freight traffic amounted to \$2,348,096.58, or 62.57% of the gross earnings, an increase of \$490,356.52, & the carriage of mail & express freight produced \$222,781.70, or 5.96% of the gross earnings, an increase of \$16,716.55. The earnings per mile were \$2,843.55, an increase of \$249.02. These figures are based on a mileage for 1898-99 of 1,314.67 miles, & an average mileage of 1,201.63 in 1897-98.

The number of passengers carried was 1,603,095, an increase of 74,651, & 1,750,761 tons of freight were carried, an increase of 316,185 tons. Of flour & meal, 1,157,250 barrels were carried, an increase of 169,842. Of grain, 2,595,353 bush. were carried, an increase of 1,043,981; of this 30,000 bush. was for shipment at Halifax. Lumber show-

ed an increase of 52,460,215 superficial ft., the total quantity carried being 306,554,031 ft. There was an increase of 20,520 in the number of live stock, of which 109,821 were carried. 494,206 tons of coal, an increase of 124,257, were carried. Of raw sugar, none was carried. Of refined sugar, 26,164 tons, a decrease of 390 were carried. A total of 6,583 tons of fresh fish, a decrease of 1,747, & a total of 5,474 tons of salt fish, an increase of 469, were carried. Of ocean borne goods, other than deals, to & from Europe via Halifax, the aggregate was 34,263 tons, an increase of 8,043. Of this 31,555 was local traffic. In addition 82,260 tons of deals were carried.

In the winter of 1898-99 the removal of snow & ice entailed an expenditure of over \$70,000, about \$12,000 more than the previous year. The permanent way & all structures & works are in good order. The train mileage (or number of miles run by trains) of the year was 4,881,695, an increase of 926,686 miles. The cost per train mile was 75.29c., 8.85c. less than in the previous year. The working expenses per mile of railway amounted to \$2,795.90, an increase of \$26.63 a mile.

The Windsor Branch.—This road is 32 miles in length, extending from Windsor Jct., on the I.C.R., to Windsor. It is operated by the Dominion Atlantic Ry. Co., which pays all charges in connection with the working of the traffic, 2-3 of the gross earnings being allowed the Co., the Government taking the remaining 1-3, & assuming all costs of maintenance of the road & works. This arrangement is carried out under an agreement, dated Dec. 13, 1892, which extends for a further term of 21 years, arrangements similar to those made in 1871. All charges for superintendence & supervision of maintenance of works are borne by the Government; the duty of supervision being performed by the chief officers of the I.C.R. The gross earnings of the Government (1-3 of gross receipts) credited to this branch, amounted to \$42,474.03, an increase of \$5,247.39. The expenses of maintenance amounted to \$12,873.09, a decrease of \$5,308.54, leaving the profit to the Government \$29,600.94. The road has been maintained in good order.

Prince Edward Island Ry.—The total cost of the road & equipment chargeable to capital account at the close of the fiscal year was \$3,790,107.26; there being an addition during the year of \$22,000.00 on account of the shortening of the line between North Wiltshire & Colville, the purchase of a wharf at Mount Stewart, & rolling stock.

The gross earnings were \$165,012.03, & the working expenses \$218,053.01; the expenditure in excess being \$53,040.98. Compared with the previous year, the gross earnings show an increase of \$6,061.42. The railway carried 129,667 passengers, an increase of 3,157, producing \$65,383.11, an increase of \$1,648.50. Of freight there were carried 57,968 tons, an increase of 429, producing \$75,888.52, an increase of \$4,042.92, while the earnings from mails & sundries amounted to \$19,740.40, an increase of \$370. Compared with the previous year, the working expenses were less by \$13,365.73. The train mileage (the number of miles run by trains) was 263,335, an increase of 10,441 miles. The cost per mile run by trains was 82.80c. a decrease of 8.71c.; & per mile of railway \$1,038.35, a decrease of \$63.64. The road, with its buildings & rolling stock, has been maintained in a satisfactory condition.

Railway to the Yukon.—In 1898 & 1899, in accordance with parliamentary provisions, surveying parties were engaged in endeavoring to find a feasible route for a railway, on Canadian territory entirely, to give communication with the Yukon District from a point on an existing Canadian railway, & also from a Canadian port on the Pacific coast, & the approximate cost of such a railway. A sum-

mary of the results obtained forms part of the Chief Engineer's report.

Canals.—The expenditure charged to capital account on the original construction & enlargement of the several canals of the Dominion up to June 30, 1899, was \$76,404,279.16. A further sum of \$15,632,242.84 was expended on the repairs, maintenance & operation of these works, making a total of \$92,036,522. These figures are the aggregate expenditure on specific canals, & do not comprise certain items charged to Canals in general. The total revenue derived, including tolls, & rentals of lands & water-powers, amounted to \$12,079,274.46. The total expenditure for the year ended June 30, 1899, including canals in general, was as follows:—On construction & enlargement \$3,899,877.31, & \$633,315.61 for repairs, renewals, & operation, making a total of \$4,533,192.92. The total net revenue collected for the fiscal year was \$369,044.38, a decrease compared with the net revenue of the previous year of \$38,618.43. The net canal tolls were \$322,285.12, a decrease of \$21,672.01, & the rents received were \$46,659.26, an increase of \$2,608.87. The total expenditure on canal staff & maintenance, repairs & renewals for the year were \$633,315.61, an increase of \$8,559.65, & the total net receipts amounting, as above, to \$369,044.38, the amount of expenditure in excess of receipts was \$264,271.23, compared with an excess expenditure the previous year of \$248,495.63.

The following features of the principal canal traffic during the season of navigation of 1898 will be of interest:—On the Welland Canal, 1,140,077 tons of freight were moved, a decrease of 134,215 tons; of which 732,470 were agricultural products, a decrease of 92,015; & 140,031 produce of the forest; 916,671 passed eastward & 223,406 westward; 1,120,730 were through freight, of which 902,519 passed eastward. Of this through freight Canadian vessels carried 310,286 tons, a decrease of 35,691 tons, & U.S. vessels 810,444 tons, a decrease of 88,329 tons. The total freight passed eastward & westward through this canal from U.S. ports to U.S. ports was 487,539 tons, a decrease of 77,155 compared with the year 1897. The quantity of grain passed down the Welland & the St. Lawrence canals to Montreal was 519,532 tons, a decrease of 40,722 compared with the previous year; of this 40,257 were transhipped at Ogdensburg, as against 89,659 transhipped in 1897. The further quantity of 55,565 tons of grain passed down the St. Lawrence canals only to Montreal, making the total of 575,097 tons. The rate of toll on grain for passage through the Welland (giving free passage through the St. Lawrence canals) was 10c. a ton.

On the St. Lawrence canals 1,439,134 tons of freight were moved, an increase of 207,769; of which 783,976 were east bound through freight, & 29,728 west bound through freight; 952,150 were agricultural products, 348,081 merchandise & 61,502 forest products. Seven cargoes of grain, aggregating 2,436 tons, were taken down direct to Montreal through the Welland & St. Lawrence canals.

On the Ottawa River canals the total quantity of freight moved was 549,986 tons, a decrease of 12,384, of which 538,250 were produce of the forest. On the Chambly Canal 271,336 tons were moved, a decrease of 80,800, of which 155,939 were the product of the forest. On the Rideau Canal 54,946 tons were carried, a decrease of 22,330, 30,238 being the product of the forest. On the St. Peter's Canal 64,490 tons were carried, a decrease of 2,603, of which 50,666 were merchandise. On the Murray Canal 15,543 tons passed, an increase of 2,312, & 4,037 of this were the product of the forest. On the Trent Valley Canal 27,676 tons were moved, of which 26,606 were product of the forest.

On the Sault Ste. Marie Canal the total movement of freight was 3,055,287 tons, being

a decrease of 891,776, carried in 3,675 vessels, the number of lockages being 2,520. Of wheat 9,746,452 bush., & of other grain 3,188,177 bush. were carried; 847,048 barrels of flour, 1,831,731 tons of iron ore & 13,611,580 ft. b.m. of lumber; all these items, except lumber, show a considerable decrease. The total traffic at this point, accommodated by the two canals, the Canadian & U. S., amounted to 21,239,438 tons, an increase of 2,252,749, carried in 17,733 vessels, an increase of 653. The total quantity of wheat carried was 62,439,904 bush., an increase of 6,508,125, & of other grain 26,139,117, an increase of 1,170,981. Of lumber the total was 898,787,580 ft., b.m., an increase of 96,547,424.

As having an interesting bearing on the question of canal versus railway transport of grain from the west, it may be noted that whereas grain & pease passed down to Montreal through the St. Lawrence canals to the extent of 519,532 tons, a decrease of 40,722 over the previous year, the quantity carried to Montreal via the C. P. & G. T. railways amounted to 293,391 tons, an increase of 64,780. The quantity of grain carried to tide-water on the New York State Canals was 459,404 tons, a decrease of 9,958, while the quantity carried by the railways of the state to tide-water amounted to 5,371,500 tons, an increase of 238,760. Of the total freight carried by the canals & railways of the State or New York, respectively (amounting in 1898 to 49,311,030 tons—greater by 5,599,518 tons than in 1897), the proportion carried by the canals has fallen steadily from 68.9% in 1859 & 47.0% in 1869 to 6.8% in 1898.

On the opening of navigation in the spring of 1900, by means of the enlarged canal systems & the intermediate water ways (though not fully completed) passage to vessels draw-

ing 14 ft. of water from Lake Superior to the head of ocean navigation at Montreal will be afforded. The extent of the improved facilities of communication so to be obtained, & their value to commercial interests may be understood from the fact that in place of the old limit of lock dimensions, viz., length, 200 ft.; width, 45 ft.; depth of water on the sills, 9 ft.; the enlarged locks are 270 ft. in length, 45

ft. in width, with 14 ft. of water on the sills, accommodating vessels 255 ft. long & 44 ft. wide. As an index to the carrying power of the new canal works, it may be observed that a typical vessel, the propeller Aragon, whose length is 247 ft. & width 42.6 ft., has passed through the enlarged Welland Canal, drawing 14 ft. of water & carrying 2,212 tons of corn.

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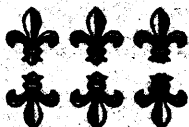
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